

Advancing Global Higher Education

Class Scheduling (aka Timetabling) Practices and Technology

Results of the AACRAO September 2016 60-Second Survey

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Introduction

The September 2016 AACRAO 60-Second Survey focused on undergraduate (n=701) and graduate (n=386) class scheduling practices (Appendix A). As with all 60-Second surveys, respondents were not required to answer all of the questions, nor were all questions proffered to each respondent; as such, the number of respondents varies by question. Topics included staffing level; primary responsibility for data entry; importance of various factors in the scheduling process; process timeline, availability of year-long registration; enrollment thresholds; the use of technology for class scheduling and student schedule planning; and the expected return on investment associated with the technology. Responses were collected from institutions representing several combinations of control, size and type (Appendix B). Responses were received from all 50 states, the District of Columbia, Canada, several United States territories, Armenia, the Bahamas, Bolivia, Egypt, Greece, China, Italy, Mexico, Oman, Qatar, Singapore, Costa Rica, Jamaica, and Micronesia (Appendix C).

One prevailing conclusion that can be gleaned from the results of this survey is that class scheduling practices vary; some scheduling services are centralized others are not, half use assistive technology and half do not, and some have generous staff resources, while others do not. The practice comments included in Appendix D and E further elucidates the dissimilarities in practice. For example, one respondent described their practices as "medieval", while another described them as "... pretty much just rolls over from year to year..."

Key Findings for Undergraduate and Graduate Class Scheduling Practices

- More than half of all respondents reported that the registrar's office has primary responsibility for entering the class data into the student information system regardless of student level.
- At the undergraduate level, nine in ten regard faculty availability as an "important" or "very important" factor in the undergraduate class scheduling process, followed by time block popularity and the class schedule from the previous year.



- At the graduate and/or professional level, nine in ten also regard faculty availability as an "important" or "very important" factor in the class scheduling process, followed by student request/need and faculty preferences.
- While 40% report scheduling classes an academic term in advance, about a fifth schedule a full academic year in advance, and a further fifth report scheduling "less than one academic term in advance."
- Just 6% of institutions in this sample let students register for a full academic year at once. An additional 18% allow students to view the full academic year schedule but not register.
- Half do not own a classroom/class scheduling solution.
- Almost two-thirds of institutions set a minimum class size threshold for a course to "run" compared to 8% who guarantee all courses will run regardless of enrollment.

Key Findings for Student Scheduling/Planning Technology

- There appears to be confusion in the field about the difference in technology used by a student to plan which courses he will take in future terms, compared to a degree audit system, and further differentiated from a student scheduling/planning solution. The latter was defined in this survey as the following: "Schedule planning solutions are used by students to create optimal class schedules by identifying preferred classes and blocking off unavailable time. The software instantly informs the student of all possible conflict-free schedule combinations available for immediate registration."
- Twenty-eight percent of respondents reported their institution offers an online schedule planning tool for their students.
- About one-third of those who do not have a solution indicated that they seek to acquire one in the next 12 months.
- When asked about the expected return on investment for current owners, 90% of respondents hoped the schedule planning tool would improve the student experience, followed by improving timely student registration (68%) and improved time to degree (62%).
- While one-third of solution owners do not know the percentage of students using the product almost one-quarter report a very high usage rate (80% or above).



Results

The results for undergraduate and graduate practices are reported below by count of respondents and filtered by institution type and control. For many of the questions, results were differentiated between undergraduate class scheduling, graduate and/or professional scheduling, and student scheduling and planning technology.

Primary Responsibility for Scheduling Data Entry

The question about where the primary responsibility for building the credit-bearing schedule of classes was intended to capture the office that is ultimately responsible for the data entry of the class schedule into the student information system. Primary responsibility at both the undergraduate and graduate level predominantly resides with the Registrar's Office, followed in both instances by the academic department level. The results displayed in figures 1 and 2 remain representative when viewed by institution type, size and control. It was noted by several that although the registrar's office has primary responsibility, course scheduling is usually a collaborative process with many involved throughout the institution.

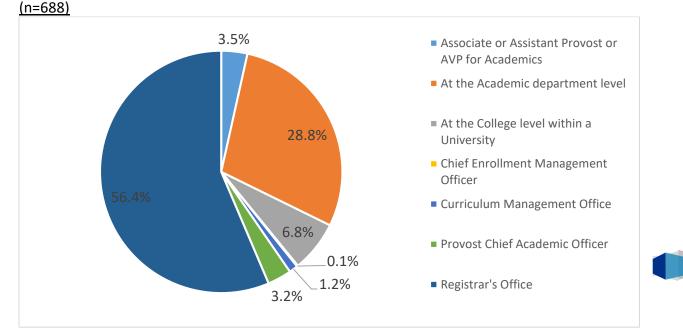
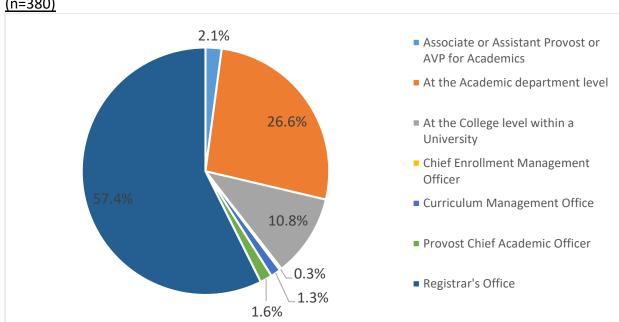
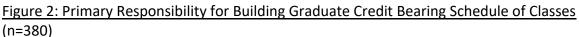


Figure 1: Primary Responsibility for Building Undergraduate Credit Bearing Schedule of Classes

AACRAO September 2016 60-Second Survey Results





Full-time Equivalent Staff

For some institutions, the number of full-time-equivalent (FTE) staff reported as having responsibility for undergraduate and graduate scheduling may in fact be the same person or persons for both levels; this was noted in one comment. However what we can glean from the results is that, in the aggregate, about one-third of the respondents reported having just one FTE position with primary responsibility for building the schedule of classes, and about a fifth have more than five FTE assigned to that responsibility (Figures 2 and 4). Generally speaking, the larger the institution the greater the number of staff (Figures 3 and 5).

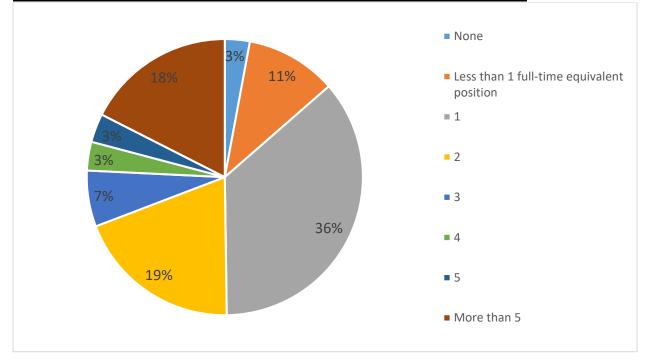


Figure 2: Full-time equivalent Staff for Undergraduate Class Scheduling (n=685)

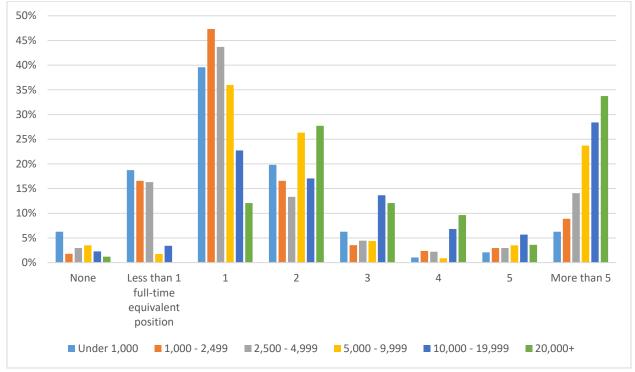


Figure 3: Full-time equivalent Staff for Undergraduate Class Scheduling by Institution Size

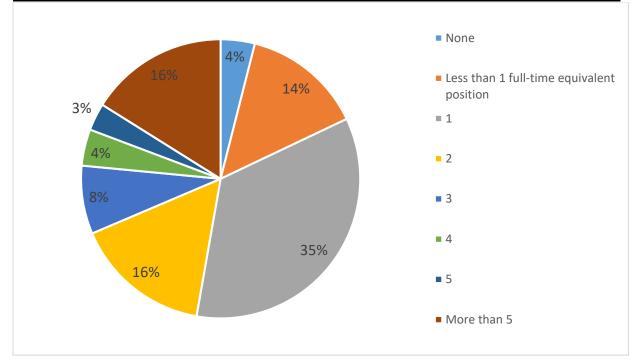
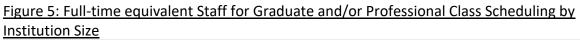
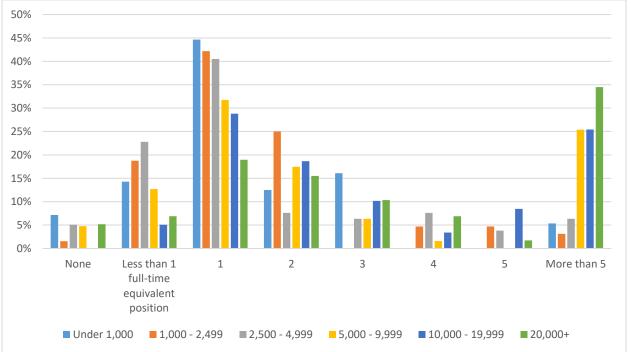


Figure 4: Full-time equivalent Staff for Graduate and/or Professional Class Scheduling (n=379)





Factors Influencing Scheduling Practices and use of Time Blocks

Figure 6 displays factors that impact the decision making in the undergraduate course scheduling process. The most popular factors codified "Important" or "Very Important" were faculty availability (90.7%), time block popularity (76.5%), and courses scheduled the same as last year (71.4%). On the other end of the scale, the factor "driven by data collected from student plans of study" was not used in the scheduling process for almost one-third of respondents and was either "important" or "very important" for almost half. In addition, at the undergraduate level, the majority of institutions (82.4%, n=635) reported using established time blocks in which to schedule classes.

While faculty availability was also rated as most important at the graduate and/or professional level (91.3%), the course needs of students and faculty preference ranked second and third (72.2% and 70.5% respectively). The factor "driven by data collected from student plans of study" at the graduate level is almost identical to that at the undergraduate level. Comparatively, a smaller percentage of graduate and/or professional respondents than undergraduate reported using established time blocks in which to schedule classes (73%, n=355).

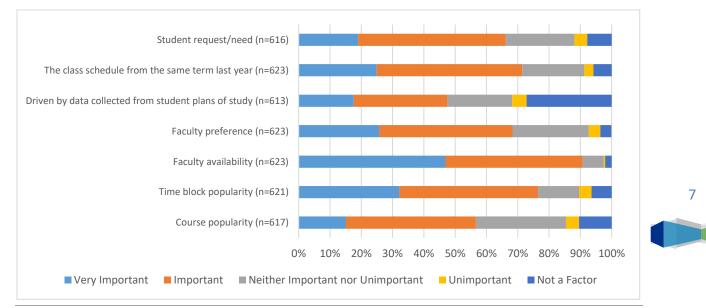


Figure 6: Importance of Various Factors in the Undergraduate Course Scheduling Process

AACRAO September 2016 60-Second Survey Results

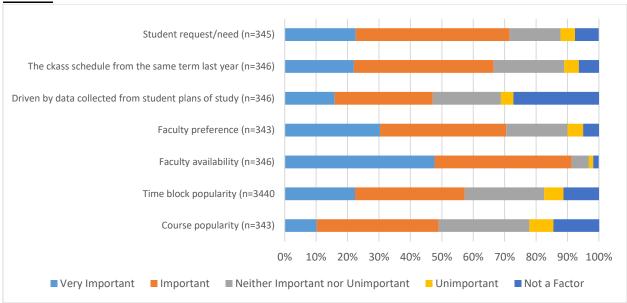


Figure 7: Importance of Various Factors in Graduate and/or Professional Class Scheduling Process

Additional Scheduling Practice Questions

The remainder of the questions in this section of the survey were asked of all respondents and not differentiated by student level in the survey.

While 40% report scheduling classes an academic term in advance, about a fifth schedule a full academic year in advance, and a further 22% report scheduling "less than one academic term in advance." This supposes just-in-time scheduling practices, but that is only a guess about practice at this time since this sample was not asked to provide further details when selecting that response (Figure 7). Comments on "Other (timelines)" included but were not limited to:

- "Fall and spring are full year in advance; summer is more than a term in advance."
- "A few days before the term starts."
- "Nine months in advance for the complete academic year."
- "Initial draft of next academic year completed mid-February every year."
- "Required courses are scheduled a year in advance. Electives are scheduled less than one academic term in advance."

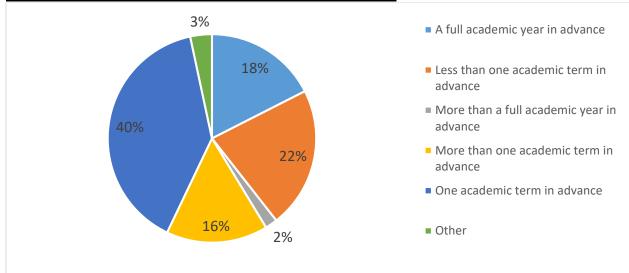


Figure 7: Advance Scheduling Time for Most Classes (n=685)

Respondents were also asked "Is it possible for a student to register for a full academic year of classes at the same time?" Just 6% of institutions in this sample support this practice although an additional 18% allow students to view the schedule but not register (Figure 8). Some institutions are planning to add the practice, and at least one other used to offer this but has stopped doing so due to the volume of "changes" (Table 1). It is unclear from that last comment whether it means student changes to their registration, changes to the class schedule, changes in curriculum or all of the above.

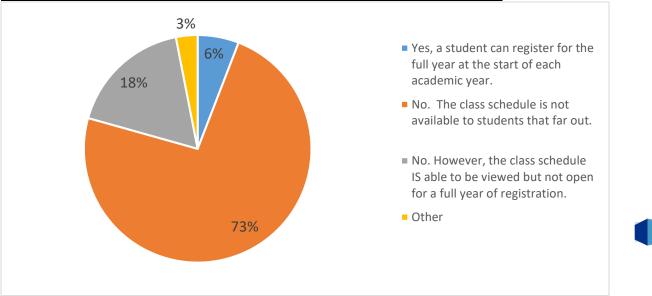


Figure 8: Full Academic Year Class Registration Available at One Time (n=683)

Table 1: "Other" response comments as to whether a student may register for a full academic year at the same time.*

Some professional schools enroll their students for a full academic year at one time, but the "norm" is to register for a single term approximately 2-4 months before it begins.

Yes, Freshman.

We are moving to having 4 years visible, but only one term available for registration.

Yes. A student can (and does) register for a full academic year in the previous spring.

A student can register for a full academic year and may do so when registration opens the April before Fall term. Yes, a student can register for a full course of study (4 years/8 semesters) in our SIS. The student would not

need to register for courses again...or could adjust future registrations, as needed.

Yes, during pre-registration in spring of the prior academic year. After pre-registration, students can register for one semester at a time.

The schedule is planned after initial enrollment data for that term is collected (i.e. Fall 2017 is requested after Fall 2016 data is collected.)

For some of our courses such as freshmen English.

Returning students may register for the next full year during spring. Brand new, incoming students may register for the full year immediately prior to the start of fall semester.

Students here are usually registered for all of their courses, except a few electives, before they start.

Summer and fall classes are available for registration at the same time.

A student is registered for full academic year at the time of enrollment.

Not yet, but we are working towards that for next year.

Traditional undergrads can register for a full academic year, grad and degree completion cannot

Yes for Juniors and Seniors only.

The College previously posted an annual course timetable; however, this was stopped due the high volume of changes.

Students are scheduled accordingly to the need, but, students do not self-register. Registrar staff registers students based on course rotation.

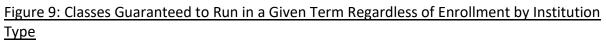
Student can register for summer and fall at the same time, spring is stand alone.

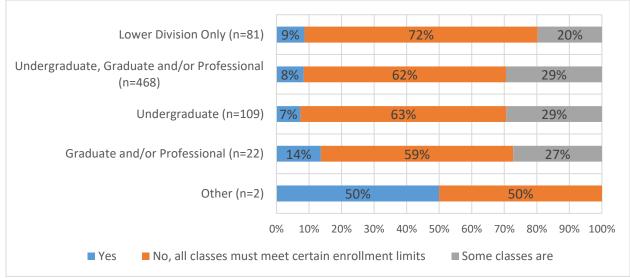
Most register for fall the preceding spring; one program registers for full year during the summer preceding fall. Our traditional students register one semester at a time, Our Graduate and Professional Studies student register for a full academic year.

*raw data

When asked "Are classes guaranteed to run in a given term regardless of enrollment?" most institutions set some minimum threshold for number of students required to be registered before a class is offered for the term. Almost two-thirds of respondents (63.8% of 682) chose "No, all classes must meet certain enrollment limits," compared to 28.2% who selected "Some classes (are able to "run"), please describe . . ." and 8.2 % who opted for "Yes (all courses are guaranteed to run)." The practice varied a bit by institutional type (Figure 9).







Appendix D lists all of the conditions/comments provided by those who responded that "Some classes are (guaranteed), please describe . . ." and included among them are the following:

- Major classes required for graduation.
- Required classes in general.
- Case by case.
- Upper division courses.

Class Scheduling Technology

Almost half (49.3% of 683) indicated that their institution owns and uses at least one classroom/course scheduling solution, and the solutions in use are detailed in Figure 9. Among those who commented on their "other" selection, most stated that their solution was "homegrown." In hindsight, the survey should have included a question about the anticipated acquisition for those institutions who do not own a solution.



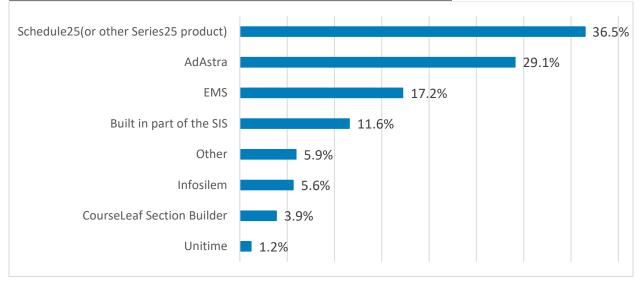


Figure 9: Course Scheduling Software in Use (n=337) (All that apply).

The top three anticipated or realized return on investment (ROI) items for using this software were, "Improved use of classroom space", "Create internal efficiencies", and "Improved use of available time blocks (Figure 10). Some of the 6.6% who selected "other" provided additional comments, which included but were not limited to:

- "Transparency in space availability as new requests for meetings, supplemental instruction, and events are planned by departments."
- "Reduce staff resources / time expended."
- "Our students must graduate in 4 years. A centralized classroom/course scheduling program enables us to guarantee that outcome."
- "Greater pairing of faculty pedagogical needs to appropriate teaching space."
- "Ability to event schedule and academic schedule under one product."
- "Improve the supply of related services (parking, cafeteria, one-stop-shop, etc.)"
- "Due to constant changes, it is used to speed up the room allocation phase."
- "Reduce course conflicts between academic departments; reduce data entry errors."
- "Better visibility of campus space for campus community."
- "To help provide data for decision making."
- "Ensuring credit classes do not overlap non-credit classes and other events."

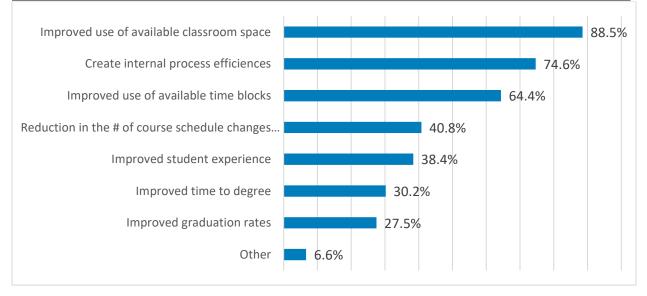


Figure 10: Anticipated ROI from Course/Classroom Scheduling Software (n=331) (All that apply)

Student Schedule Planning Technology

As stated in the key findings section, there appears to be some confusion in the field about the difference in technology used by a student to plan which courses he will take in future terms, as differentiated from a degree audit system and differentiated from a student scheduling/planning solution. The latter was defined in this survey as the following "Schedule planning solutions are used by students to create optimal class schedules by identifying preferred classes and blocking off unavailable time. The software instantly informs the student of all possible conflict-free schedule combinations available for immediate registration." In contrast, a degree audit solution completes a course progress toward the student's intended credential while education planning solutions--which may or may not be part of the degree audit system--allow a student to map his/her courses for future semesters but does not allow the student to register for those courses from that solution.

This conclusion was drawn from the survey answers provided for the questions "What student schedule planning solution are you currently using?" and "What return on investment (ROI) do you hope to gain from the use of a student schedule planning solution?" Many responded to

either or both of these questions with additional comments naming a degree audit solution or an education planning solution rather than a student registration planning solution as the question intended. The data was corrected to account for this confusion.

Based on the corrected data, about one-quarter (28% of 684) indicated their institution does have a student scheduled planning solution. About one-third of those who do not have a solution indicated that they seek to acquire one in the next 12 months. Among those who own a solution, Figure 11 captures the solutions in use. Please note some who responded "Yes" and "Other" may not have understood the definition/purpose of the student schedule planning solution, but we were unable to confirm this assumption due to a lack of comments provided for the "Other" response. As such, the number of those respondents correctly coded as "other" may be overstated by as many as eight and in turn, the number of those reporting ownership of a student scheduling solution may also be equally over reported.

Most owners hope to gain an "Improved student experience" by using the solution, and just over half seek a "Reduction in the number of student schedule changes" (Figure 12).

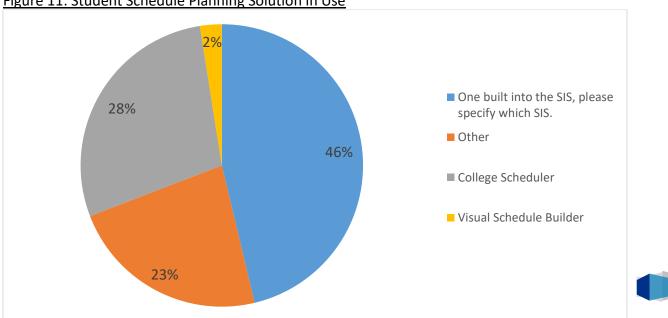
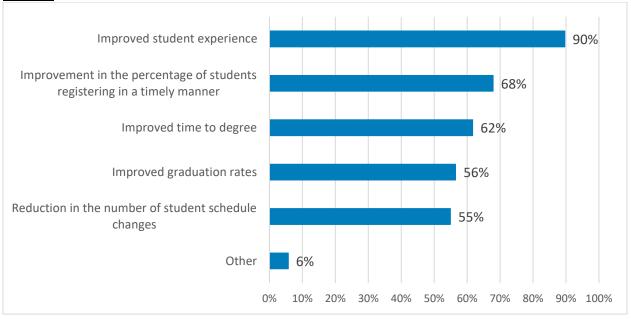




Figure 12: Anticipated ROI for Student Schedule Planning Solution among Current Owners (n=193)



While one-third of solution owners do not know the percentage of students using the product almost one-quarter report a very high usage rate (80% or above) (Figure 13).

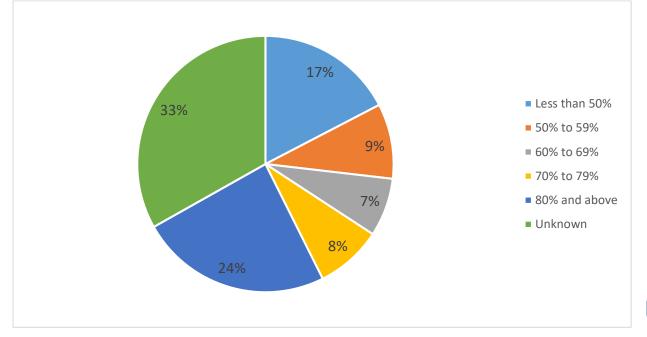
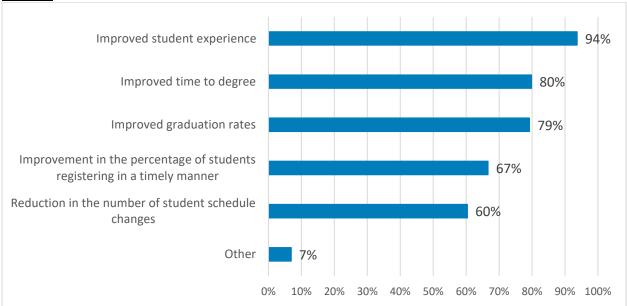


Figure 13: Percentage of Students Who Use the Student Schedule Planning Tool (n=190)

The anticipated ROI for those who seek to acquire a solution in the next 12 months are very similar to those of current owners (Figure 14).

Figure 14: Anticipated ROI for Student Schedule Planning Solution among Future Owners (n=159)



Questions regarding this or other AACRAO research should be directed to Wendy Kilgore,

AACRAO Director of Research, at wendyk@aacrao.org.

Appendix A: AACRAO September 2016 60-Second Survey – Class Scheduling (AKA Timetabling)

Class Scheduling Practice and Technology

For the purpose of this survey, please indicate the level of class scheduling practices you are addressing.

Check all that apply.

Undergraduate class scheduling practices

Graduate and/or professional class scheduling practices

Where does the PRIMARY responsibility for building the UNDERGRADUATE credit bearing schedule of classes reside?

This question is intended to capture the office that is ultimately responsible for inputting the schedule of classes into the SIS.

0	Chief Executive (President, Chancellor, etc.)
0	Provost Chief Academic Officer (e.g., Provost, VP for Academic Affairs)
0	Registrar's Office
0	Curriculum Management Office
0	At the College level within a University (e.g., Dean or designee within a College)
0	At the Academic department level
0	Associate or Assistant Provost or AVP for Academics
0	Chief Enrollment Management Officer (e.g., Dean of Enrollment Management, AVP for Enrollment
	Management)

How many total full-time equivalent staff have primary responsibility for UNDERGRADUATE class scheduling?

0	None
0	Less than 1 full-time equivalent position
0	1
0	2
0	3
0	4
0	5
0	More than 5

Where does the PRIMARY responsibility for building the GRADUATE and/or PROFESSIONAL credit bearing schedule of classes reside?

This question is intended to capture the office that is ultimately responsible for inputting the schedule o	f
classes into the SIS.	

0	Chief Executive (President, Chancellor, etc.)
0	Provost Chief Academic Officer (e.g., Provost, VP for Academic Affairs)
0	Registrar's Office
0	Curriculum Management Office
0	At the College level within a University (e.g., Dean or designee within a College)
0	At the Academic department level
0	Associate or Assistant Provost or AVP for Academics
0	Chief Enrollment Management Officer (e.g., Dean of Enrollment Management, AVP for Enrollment
	Management)

How many total full-time equivalent have primary responsibility for GRADUATE and/or PROFESSIONAL class scheduling?

-	6
0	None
0	Less than 1 full-time equivalent position
0	1
0	2
0	3
0	4
0	5
0	More than 5

Rate the following items in terms of their importance in the UNDERGRADUATE class scheduling process.

	Very important	Important	Neither Important nor unimportant	Unimportant	Not a factor
Course popularity	0	0	0	0	0
Time block popularity	0	0	0	0	0
Faculty availability	0	0	0	0	0
Faculty preference	0	0	0	0	0
Driven by data collected from student plans of study	0	0	0	0	0
The class schedule from the same term last year	0	0	0	0	0
Student request/need	0	0	0	0	0

Rate the following items in terms of their importance in the GRADUATE and/or PROFESSIONAL class scheduling process.

	Very	Important	Neither Important nor	Unimportant	Not a
	important		unimportant		factor
Course popularity	0	0	0	0	0
Time block popularity	0	0	0	0	0
Faculty availability	0	0	0	0	0
Faculty preference	0	0	0	0	0
Driven by data collected from student plans of study	0	0	0	0	0
The class schedule from the same term last year	0	0	0	0	0
Student request/need	0	0	0	0	0

Does your institution use established time blocks for UNDERGRADUATE classes?

0	Yes
0	No

Does your institution use established time blocks for GRADUATE and/or PROFESSIONAL classes?

0	Yes
0	No

How far in advance are MOST classes scheduled?

0	Less than one academic term in advance
0	One academic term in advance
0	More than one academic term in advance
0	A full academic year in advance
0	More than a full academic year in advance
0	Other, please specify

Is it possible for a student to register for a full academic year of classes at the same time?

C	\mathbf{c}	Yes, a student can register for the full year at the start of each academic year.
C)	No. The class schedule is not available to students that far out.
C)	No. However, the class schedule IS able to be viewed but not open for a full year of registration.
C)	Other, please specify



Do you currently use a classroom/course scheduling software?

0	Yes
0	No

What software?

If your institution uses more than one solution, please check all that apply.

EMS
Schedule25 (or other Series 25 product)
AdAstra
Infosilem
Mimosa
CourseLeaf Section Scheduler
Built in part of the student information system
UniTime
Other, please specify

What return on investment (ROI) do you hope to gain from the use the classroom/course scheduling software?

Check all that apply.

Improved time to degree
Improved student experience
Improved graduation rates
Create internal process efficiencies
Improved use of available classroom space
Improved use of available time blocks
Reduction in the number of course schedule changes occurring after the schedule has been released to
students
Other, please specify

Are classes guaranteed to run in a given term regardless of enrollment?

0	Yes.
0	No, all classes must meet certain enrollment limits.
0	Some classes are, please describe

Additional comments about class scheduling practices.

Student Schedule Planning Technology

Do you currently offer your students an online schedule planning tool to help them build their schedule in advance of registration?

Schedule planning solutions are used by students to create optimal class schedules by identifying preferred classes and blocking off unavailable time. The software instantly informs the student of all possible conflict-free schedule combinations available for immediate registration.

	-
0	Yes
0	No

Is your institution considering implementing a student scheduling planning solution in the next 12 months?

0	Yes
0	No

What student schedule planning solution are you currently using?

0	College Scheduler
0	Visual Schedule Builder
0	One built into the SIS, please specify which SIS.
0	Other, please specify

What return on investment (ROI) do you hope to gain from the use of a student schedule planning solution?

Check all that apply.

Improved time to degree
Improved student experience
Improved graduation rates
Improvement in the percentage of students registering in a timely manner
Reduction in the number of student schedule changes
Other, please specify

Approximately what percentage of your students use the schedule planning tool?

0	Less than 50%
0	50% to 59%
0	60% to 69%
0	70% to 79%
0	80% and above
0	Unknown



Appendix B: Respondent Count by Institution Type, Size and Control

Туре	Count	
Lower Division Only	ç	94
Undergraduate	11	16
Undergraduate, Graduate and/or Professional	52	29
Graduate and/or Professional	2	26
Other		2
Grand Total	76	57

Control	Count
Public	335
Private, not-for-profit	406
Private, proprietary	26
Grand Total	767

Size	Count
Under 1,000	133
1,000 - 2,499	180
2,500 - 4,999	145
5,000 - 9,999	125
10,000 - 19,999	97
20,000+	87
Grand Total	767



Appendix C: Respondent Country, State/Province

Appendix C. Respondent Country,	Count
Armenia	1
Bahamas	1
Bolivia	1
Canada	31
AB	5
ВС	10
МВ	1
NL	1
NS	1
ON	11
QC	2
Costa Rica	1
Egypt	1
Greece	1
Guam	1
Hong Kong	1
Italy	1
Jamaica	1
Lebanon	1
Mexico	2
Micronesia	1
Northern Marianas Islands	1
Oman	1
Qatar	1
Singapore	1
United States	718
AK	2
AL	11
AR	7
AZ	8
СА	53
со	18
СТ	8
DC	5
DE	2
FL	20

GA	19
н	3
IA	14
ID	4
IL	29
IN	19
KS	12
КҮ	12
LA	4
MA	38
MD	13
ME	6
MI	16
MN	26
MO	15
MS	3
MT	6
NC	17
ND	2
NE	10
NH	3
NJ	12
NM	7
NV	3
NY	49
ОН	31
ОК	12
OR	17
РА	51
PR	3
RI	4
SC	11
SD	1
TN	11
тх	36
UT	4
VA	21
VT	3

WA	12
WI	18
WV	5
WY	2
Grand Total	767





Appendix D: Reasons for Letting a Less than Minimally Enrolled Class "Run"*

*Raw comments

Most classes have a minimum to run. However, we have classes, such as music ensembles and lessons that will run regardless of number enrolled. We also offer directed studies so we may have classes of one.

Required major studio classes.

Specialty classes such as certain music classes or upper-division required for degree classes.

If a student needs a class that is cancelled or not offered in order to graduate we provide it in an independent study format.

Some graduate classes may be allowed to run with low numbers if needed by students for degree progression or graduation.

Many classes are cancelled due to low enrollment, but there is no enrollment threshold for all classes.

Upper level undergraduate courses are guaranteed that run.

If enrollment is low and the course is required, it may run if it the only chance for enrolled students to take it.

Most courses during regular semesters are guaranteed but courses offered during our January and summer terms are not.

Classes are rarely cancelled due to enrollment, but may be if alternatives exist.

Exceptions can be made by the VP Instruction.

Some classes have the option of converting to a guided study - senior seminar, some advanced language courses.

No guarantees, but each case is assessed individually.

Required for graduating seniors within the major; required general education courses.

A small amount of courses may run at low enrollment if no other option is available for students and the course is required in order to meet their degree requirements

Classes needed by upper-classmen to complete a degree in a regularly scheduled term will be offered regardless of class enrollment numbers.

Depends how often the course is offered, if students need it to graduate, etc.

Depends on enrollment and student needs for graduation purposes.

Some classes will be cancelled due to low enrollment, but we don't have an institution-wide minimum enrollment total

Upper-level courses required for the major may be offered when under enrolled.

Degree requirements for graduating seniors are - or they're offered as a "special arrangement. Others have enrollment limits.

If a low enrolled course is a requirement for students graduating at the end that semester, the course is allowed to run.

Varies by department - some will cancel and others will launch.

For required courses yes, elective courses no.

Classes must meet enrollment limits unless there are seniors in the class who must have it to graduate.

Some General Education courses are offered regularly.

If needed to meet a graduation requirement.

Certain upper-level classes with traditionally low enrollment will be offered when needed.

Independent study, study abroad, internships, classroom teaching.

Uneven policies and enforcement currently.

Depends on situation; we are highly specialized.

Some are only offered in Fall or Spring, but many core courses or electives are offered every semester.

Depends principally on size of program. e.g., smaller programs may run classes at levels lower than others.

This is dependent on departments/colleges.

Some will run with lower enrollment if students need it for degree completion.

Proximity to graduation may impact decision to run course as Ind. Study/tutorial.

In theory, courses are expected to have minimum enrollments. Courses are occasionally allowed to run without reaching the minimum if the instructor can't be deployed to offer a different course.

Up to the department offering the course.

A small number of courses such as Senior Project and Dissertation Research or Dissertation Writing courses are allowed to run below minimum enrollment.

Sometimes courses with low enrollment are allowed to run anyway, due to faculty preference or because a small group of students need the course to graduate

Depending upon how many students might need the class to meet graduation requirements.

Classes that meet specific major or minor requirements may run regardless of enrollment.

Generally yes, but the minimum enrollment is 6 students...and that minimum can be waived if the course is required/critical for students' continued progress toward graduation.

Extended Education classes run based on minimum enrollment, otherwise all classes should run.

Department Chair/Dean make all decisions on minimum enrollment needed.

We do have enrollment goals for courses, but if a small group of students need a course to graduate, then exceptions are made.

Classes required for the major will typically run.

Only pre-approved required classes are exempt from meeting certain enrollment limits.

If a student needs it to graduate.

Senior Seminar courses will run regardless of enrollment, but all others must have 9 enrolled.

Senior capstone classes are the only ones allowed to run without achieving the enrollment minimum.

More prevalent at the graduate level, some classes are kept in the schedule as a just in case it is needed.

Most are, but it's at the discretion of the offering department.

Core courses, but not Gen Ed.

Required courses may sometimes run with a low enrollment.

Core courses run regardless of enrollment; Elective courses need 5 or more to run.

If we have under enrolled programs we will run courses to ensure on time graduation.

Some of our medical classes are guaranteed.

Certain required courses may still run if enrollment thresholds are not met.

We will allow senior seminars to run with low enrollment.

Some major/concentration-specific classes will run with low enrollment.

Very rarely, senior-level required courses are allowed to run with low enrollment.

Mandatory classes for all students like ENGL and LIB are offered every term.

Enrollment viability thresholds prompt a review process.

If required for majors with small enrollments, then it may run or become independent study.

Requirements yes, electives no.

Depends on whether necessary for students to make degree progress.

Departments can cancel at their discretion for under-enrolled sections.

Chairs must justify sections running with 10 or fewer students.

It depends on whether or not there is another alternative path for a student to reach completion on time.

If needed for graduation.

Exceptions may occur due to degree plan needs.

Colleges and departments can cancel courses for low enrollment with no minimum.

Some courses will run no matter how few.

If the low enrollment class is needed for students to graduate that semester, the Department does run them.

Some classes with low enrollment are kept due to students' needs to take classes in specific order.

Based on our course rotation.

Degree requirements for graduating students stay on the schedule though they may be taught as independent study courses if the enrollment is too low to keep the course on the schedule.

Most classes run, regardless of enrollment. Occasionally, some classes are canceled (or multiple sections combined) if there are very few registered. If the course is necessary for a student to meet graduation requirements, it typically runs, even with low enrollment.

Usually, classes are guaranteed to run if the program offering has sufficient enrolment.

If needed for students to graduate or stay on track to completion.

Core major requirements might still run with low enrollment.

School deans have the authority to cancel based on enrollment; some do, others don't.

Lack of enrollment may alter when in the semester the class is given so it could generate a time change.

Upper division major courses are allowed to meet with low enrollment.

Each college sets their enrollment limits and they are different for grad and undergrad.

A course required for graduation by a student in their final term.

Sections with graduating seniors and veterans will run with minimal enrollment; or be converted to an independent study so not to stop the student from graduating or losing their BAH.

Must have at least 3 students.

We produce an annual course listing with several "guaranteed to go" courses and then other courses that are subject to cancellation.

Some classes may be canceled if they don't reach a certain enrollment.

There are enrollment limits in summer school.

Low enrolled requires Dean's support.

Programs with high student enrollment are nearly guaranteed to offer due to high demand. However if an individual student or small group of students need a course in a particular semester and it's not on the schedule already, we'll offer it as a directed study.

Certain capstone classes.

Low enrolled classes are reviewed and offered as needed.

Upper level major requirements may run even if numbers are low.

Required courses run in given terms; Electives vary.

We have exceptions for courses that students need to complete degree requirements. We have an overall small institution so our numbers are smaller than most universities.

Classes required for graduation are usually allowed to proceed with low enrollment, but in general classes must meet a minimum enrollment limit.

Exceptions could be made, based on degree completion requirements, but it would be a rare circumstance.

Based on need for degree completion.

Courses that are needed to meet pre-requisites that allow on-time graduation.

Some senior major courses.

Department decision. We are on resource centered budget model, so departments may weigh whether they can afford to offer an under-enrolled class.

We look at several factors.

Most classes must meet enrolment limits unless there is a need to allow students to graduate.

Major classes.

Typically those needed by students in their final term in order to graduate.

If the enrolled students need it to graduate that semester.

Departmental decision to run classes with low enrollments.

Depending on the availability of other sections, the class may or may not be cancelled.

Required for a degree.

Classes that are required for a major/minor.

It's complicated!

Major requirements may run with low enrollments.

Some upper division major courses are allowed to run below the enrollment limit.

This depends on limits set by the departments.

If the course is necessary for a student to graduate on time.

if needed for graduation (and the course was not previously available for the student).

Core classes are offered every term. Some others are offered only in Fall or Spring.

Sometimes they will run if enough students need it to graduate.

Major core required classes will be offered regardless of enrollment in course.

Specific classes for small programs, with few students.

Required major courses are. Electives are not.

Usually need 10 but there are exceptions particularly at the graduate level.

2nd year vocational technical courses - to allow graduation.

Some classes must meet a minimum enrollment while courses required by a department for graduation may run without necessarily meeting a minimum enrollment.

6 is our magic number, but some courses need to run because they're required for a major or program.

This is a department by department decision; classes are rarely cancelled for low enrollment.

Depends on the graduating senior's problem.

Upper level courses required by majors.

If this section is required for seniors to graduate.

Required for degree in majors with low enrollment.

If students need the class to graduate we will run a low enrollment class.

If the classes are offered based on graduation needs.

AACRAO September 2016 60-Second Survey Results

For gen eds: no; for major requirements, depends on the major

All classes must meet certain enrollment limits, but each low enrolled course is assessed on a case-by-case basis in conversation with department chairs. Sometimes a class will run, sometimes it will be canceled.

On rare occasions, we will run a class that is below enrollment but will meet student needs.

Courses required to complete a major.

Classes may be cancelled by a department for under enrollment, but there is no enforced rule.

Classes taught by FT faculty are not cancelled even with low enrollment.

Some upper division courses are allowed to run at less than the minimum normally allowed for various reasons, including discipline-specific accreditation requirements.

Most classes have a minimum enrollment, but if a class is required in order for students to graduate then the class will not be cancelled. This happens most often in low populated majors.

I do not care for the word "guarantee" and then the only other option is "no" with a qualifier. Poorly worded question. How about "no" with a chance to describe. We always reserve the right to cancel a class.

Enrollment of six students is required except in upper-level requirements in small majors.

Capstone courses or courses in a small major may run.

Must meet enrollment limits but capstones allowed to run even if low-enrolled.

There is not a specific minimum enrollment, the size and needs of the department and needs of those students registered are weighed by department chairs and the provost in each case of low enrollment.

Case by case; if students need to graduate or keep on track, we try to accommodate.

Courses required for a major and graduating students are in it.

If required for majors, and only offered in a certain offering pattern. Low enrolled majors would not be subject to minimum caps.

Dependent on reason or justification of keeping a course with low enrollment. Must be approved by Provost

It depends on the enrollment and faculty willingness to teach to a smaller group.

Required classes rarely have enrollment issues.

Classes required for a MAJOR; UG and G research classes; classes required for professional licensure/certification by state, national, or federal requirement.

Most classes must meet a certain enrollment limit. However, come courses may still go with lower enrollments if a unique offering required for a program or if a grant funded course offering.

Based on the popularity of the course.

Depends on the type of class (required, elective).

There is a minimum enrollment required, except for core requirements of small majors.

Generally speaking, under-enrolled classes are allowed to run if faculty are not in overload or if students must have the courses for graduation.

Each Academic Department determines if they will cancel under-enrolled courses, the Departments are then held accountable for under-enrolled courses during an annual review.

Exception maybe granted for courses that are phasing out a program.

Depends on student need and faculty resources.

Honors and Graduate level courses may proceed with small classes due to student need.

Major classes required for Graduation

Some programs have course rotation schedules for major courses.

If class is needed by enough students for graduation.

If class is needed for students to graduate it will run with less than required minimum numbers of students.

If a course is needed for a student to graduate, it may be offered.

If it is a new offering or a core/unique offering within a program the institution wishes to support, then we will allow enrolment below an economically viable line in order to ensure students are given the (infrequent) opportunity to take a particular course.

With the exception of summer term

We have certain commitments to our students and may offer classes at lower enrollments to ensure students can take them to graduate.

Curricular requirements typically run regardless; others may become independent studies or be cancelled

Most must enroll 10 or more. Classes needed for graduation or a full-time faculty workload may run with fewer than 10.

If a required senior course has lower enrollment then the max set, we might run that section.

Independent Studies, Self-Directed Research, Revenue, Labs, First Year Seminars, New Programs, Sunset Programs, Honors classes, music, performing arts, fitness classes, revenue generators, online classes. There are other exceptions, but that's an example of some.

If a course is required for a student to graduate and only one or two students needs that class, we will offer it even with low enrollment.

If they are required for students to graduate they may run with low enrollment.

Capstone courses in small major departments or second courses in a sequence (e.g. Foreign language)

Required class will run with a least 5 students.

Faculty discretion is involved in this decision

It's up to the college/school/program to decide on acceptable minimum enrollment.

only classes that don't meet minimum level of enrollment are reviewed by Chair, Assoc. Dean

Some run small at smaller sites

Required classes for major

Appendix E: Additional Comments About Class Scheduling Practices*

*raw comments

The Department Chair for each major schedules departmental classes, but everyone has a good understanding that studio and liberal arts courses are scheduled at different times.

We are revamping the way we schedule as we change student ERP systems.

At our college, not all courses are offered every semester or every year. Many are offered on a 2-year rotation. Adding to the complexity of course scheduling are the small number of multiple-section courses, the large percentage of students pursuing an academic minor in a different department from the major, and the 2-year rotation of many courses.

while entry of class scheduling is distributed to academic departments, approval of each schedule is centrally done by Registrar's office

It is very manual and changes constantly and is a headache.

We have just signed a contract with AdAstra.

We had hoped to use AdAstra's Classroom Optimization feature, however, the software has proven to be extremely difficult to set up and very "touchy." Basically, the company wants the institution to hire one of their consultants to come in and setup the optimization preferences and process which we were not aware of nor informed of when we were "sold" the newest version of the software.

Academic chairs provide number of sections of each class and the faculty assigned to teach each class. Schedule is manually built in the Registrar's Office taking into account the student curriculum tracks, the classroom and lab restrictions, and faculty time restrictions. We use AdAstra to try to help maximize room usage.

The first or second question that asked about who had primary responsibility for setting the class schedule said to list all that apply yet the questionnaire only allowed one response. Classes are entered by the academic units for about 6 weeks into their own spaces but are set up and managed by the Office of the Registrar. After the first 6 weeks, the Office of the Registrar optimizes the remaining courses into the open spaces on campus and sends the schedule out to the academic units. So, in essence, it is a joint project.

Depts decide what they want to offer, and submit time, day, room requests to us. So in some sense, schedules are built by the department as well as the Registrar's Office.

It pretty much just rolls over from year to year. Not a lot of change unless big courses are dropped or changed significantly (i.e. Calculus changes from 3 credits to 4).

At my university, our academic schedulers pre-assign a number of classes as they don't feel confident in our scheduling software. The registrar's office tries to adhere to standard course meeting times but that is not enforced.

We eventually want to make one full academic year of classes available at one time. We are working to improve our systems and processes to better use student plan data to drive the course schedule.

We are hoping to move to full year registration, and scheduling two years at a time. We schedule without any technological help so the Registrar's Office and department chairs spend a lot of time trying to prevent course conflicts, etc. Classroom scheduling is a nightmare - again, no technology, and we are tight on physical space.

We have a home grown system for departments to schedule courses which is then reviewed by a Committee and the Registrar's Office then builds the schedule.

Some schedules are very much faculty driven. Based on what day/time a faculty can teach. Or what course(s) a faculty wishes to teach. data from degree audits are used by some to forecast what course needs "remain" for upperclassmen going into their last year.

The biggest challenge is moving from locally created schedules to centrally software created schedules.

EMS software has done nothing to reduce the time it takes our processing unit to enter the class schedule, final exams, or assign space. If anything, it has caused additional time and resources to produce the schedule.

We usually do not assign a registrar managed classroom to courses with less than 5 students enrolled.

Course scheduling is decentralized. Each academic department manages their own course offerings. The Registrar schedules classrooms and enforces scheduling policies.

We are currently reviewing two products to add on to our SIS. Ad Astra and S/R/X 25 by Collegenet.

The departments submit their schedules. The registrar's office builds/maintains/updates the schedules in Banner.

We are looking at time block scheduling but are a small campus that has suffered average 18% enrollment drop for 4 years.

Distributed schedule built (/revised based on last year's schedule) by each academic department using SIS. Schedule finalized by one full time FTE in Registrar's Office with staff support. SIS wait list information used to support the addition of additional sections when funding, facilities and faculty available.

We do not have preregistration. Students finalize a schedule by the tenth day of the term. Classroom scheduling is done about two-weeks before the start of term and is based on prior enrollment and/or projected enrollment, not actual registered headcount.

Just purchased CLSS from CourseLeaf and will implement this year.

Departments submit schedules to the Registrar's Office. The Registrar's Office enforces scheduling is within valid time blocks. In order to ensure overscheduling within popular time blocks departments are not allowed to schedule more than 10% of their total sections (excluding labs) in any 'time block'.

There are campus conversations about year requiring graduate students to register for a full academic year.

For adjunct faculty the class enrollment usually has to be at least 6 to pay for the course. However, if the courses is needed for the student to graduate in that term, the course may 'go' with less students. If only one student needs it and that is the graduate, it will be taught as an Independent Study.

We use S25, but it does not work for our purposes.

We have an exceedingly complicated schedule, with courses starting and stopping at various dates within a 15week term, including weekend workshops and many short courses of 1 to 3 weeks length.

Need a system that will help to create efficient schedule blocks based on the institutions standard contact time and the length of the term. We are moving to have multiple module length terms within the semester on a campus with limited space.

Most of our programs require specific days per week for clinical scheduling (per hospital contracts), so classes are scheduled around those days.

It's medieval.

Although we use EMS's Campus Planning Interface (CPI) for most departmental submissions, we have experimented with allowing a few departments/schools direct access to Banner. The Academic Scheduling office within UReg still runs quality control queries to be sure they are operating within established parameters.

The class offerings are determined by the Departments and Colleges and furnished to the Registrar's Office, which builds the schedule of class offerings in the student information system.

If enrollment does not meet the minimum requirement for a course to run, faculty have the option of doing the course by arrangement.

The same staff who schedule undergraduate classes, also schedule graduate classes. Outside of the centralized scheduling office, Extended Education is the only other office that also schedules classes in our SIS.

The Registrar's Office does the course projections, the department assign times and faculty. We use Infosilem for scheduling new freshmen students into classes but not for deciding on when or what the classes there should be.

Specialty rooms, such as science labs, computer labs or large classrooms, are factors considered when scheduling classes.

Very manual process with multiple points of data entry.

We have made great strides in some areas - are lacking in others. We are hoping that BANNER XE and Degree Works will assist us in moving forward.

We are a decentralized campus, with some oversight from the registrar's office with regards to meeting patterns and meeting course hours, otherwise the schedule is very much faculty driven. We are building capacity and reports to assist with more data driven scheduling practices.

Chairs submit schedule worksheets to Records (includes course, desired capacity, and time); Records loads schedules and assigns rooms. Faculty Office Associates and Records assign faculty/pay codes per chair decisions.

Scheduling has always been at the faculty whim. However, things may be changing as classrooms are taken off line the less popular time slots will be utilized to ensure all classes can be held.

The institution is working on a plan by which our new degree audit system (DegreeWorks) will help with course planning. In addition, we are in possession of room scheduling software that we have not yet fully implemented due to training needs.

While established time blocks are attempted, MWF - 50 minute lecture; T/TH 90 minute lecture - that is not consistently applied. Most graduate courses are scheduled in the evening. Professional courses are scheduled day and evening.

Many of the programs at our professional/graduate institution are lock-step curriculum. Aside from any changes in curriculum, many of these programs use the same or a similar version of their schedule from year to year.

Our program associates--staff in the academic program areas--build timetables. We in the registrar's office load these timetables to the SIS. We then use EMS to allocate classrooms. But, most courses in most program offerings are required, with few electives (sometimes none), so we don't have the same challenges with under-subscribed courses as some institutions do.

We are an Aviation school so seasonal weather patterns effect the scheduling of some classes. Courses run Mon-Friday in six week blocks so sections can be moved within a semester if enrollment is an issue.

Software is poor for this need.

Departments determine which classes will be offered at what times and Registrar's Office assigns rooms/does SIS input.

We have a lot of courses that require particular classrooms/labs/studios, so classroom scheduling software is less helpful in reducing workload or helping us improve space utilization than we would like.

We just this semester allowed the deans' administrative secretaries to make limited updated to their scheduled classes.

Most of our graduate courses are offered online.

Manual, excel.

Registrar needs to be consulted more!

Room assignments still done manually then entered into SIS (Colleague) and uploaded to R25 to ensure no room conflicts. R25 scheduling system was too complex and confusing to implement.

We have trained chairs/admins at the dept. level to input the schedule and "validate" to the Class Schedule Policy, user home-grown validation tool. Role of University Registrar is to assist the depts., run our own validation, provide info to Provost, and in general be the "eyes" to insure spread of classes and the right classes. A significant time and talent issue for the University Registrar's Office but an increasingly critical one.

We offer some courses on an alternating year basis and our ERP allows us to code this information which is available to students in the course catalog.

You asked for important factors for scheduling. It was not clear as to whether it was how we are doing it, or how it should be done. - I listed my opinion of the importance, but I'm not sure that Departments actually follow these practices. I think in many instances, they are given when it is convenient for the faculty and follow the way it was done last year in many instances.

It is a true manual process of linking room logistics and resources with course and faculty.

Due to budget considerations, more attention is being paid to faculty load and the use of adjuncts.

Our current scheduling practices are under review and we will most likely move to use specific time blocks for undergraduate courses and to use a classroom/course scheduling software.

Non-standard class times, normally for graduate programs, are particularly challenging because they cross over multiple standard time keys.

We are currently reviewing our process and looking to institute more software. We've tried the Event Scheduler 25Live, but it doesn't have the functionality we would want in a course scheduler.

We use almost no technology and it's miserable. We've got a homegrown system for departments to input information somewhat nicely, but then they export it and give it to us in Excel and we type it all back in. Awful stuff.

The Registrar's Office provides each department a list of courses taught the previous like term (we rolled the same term forward). Departments review the courses previously taught and sends the update list to the Registrar's Office. Departments also determines room assignments. Having no classroom/course scheduling software creates havoc for student groups not being able to book room since academic has priority.

On-time graduation is essential at Naval Postgraduate School, so our class scheduling is demand-based rather than supply-based.

Recently, we implemented CourseLeaf's CLSS class scheduling software. We roll the previous like term courses for the academic departments to update. The college deans and the Provost's Office also review the course offerings before they are uploaded into Banner. The Provost's Office recently took over the creation of the class schedule to better control the course offerings, however, discussions didn't occur with the registrar's office, so most of the changes to course offerings continue to be processed by the registrar's office. It is an overly complicated process that could have been simplified. It will be interesting to see if these responsibilities return to the registrar's office at some point.

There are only 2 FTE staff who build both the UG and GR class schedules within the Registrar and Provost offices. These are the staff who address class schedule changes, or build sections that cannot currently be handled by how we've built CourseLeaf's CLSS system. The majority of the actual data entry is handled by the academic departments - but it's done in the CourseLeaf system before being uploaded into Banner.

Our faculty make the initial schedule based on their preferences. We have one person in the registrar's office who builds the schedule and another person who assigns the classrooms based on the built schedule. This person also checks that any classes outside of the time blocks have permission to be offered at an alternate time.

The Academic Departments determine the schedule, but the Registrar's Office inputs the schedule into the SIS. We are considering changing this practice so the Registrar's office has more oversight of the entire schedule.

Departments/Programs meet with the Dean of Faculty Office each year to plan what they will offer, and who will offer it. This is determined on a yearly basis (although changes may occur.) They do not decide on times of day, however, so it was problematic that you did not define what you meant by "scheduling." If by scheduling you mean simply "when" courses are offered, then the departments/programs determine it, and we fit them into available classrooms. If by scheduling you mean "what" is to be offered and by "whom" in a coming year, it is determined on a yearly basis via consultation between departments/programs and the Dean of Faculty office.



We are just implementing Astra and hope to change our historical practices to better utilize data taken from our degree audit system (Degree Works).

We have room scheduling software at the campus level however course scheduling occurs outside of this application.

It is very problematic not having a full academic year of course scheduling available for students and for advisors.

The registrar downloads 3 years of schedule date every fall and work with the Associate Provost using enrollment trends produce requests to departments and programs. The departments and programs respond and we do or don't make modifications and then we provide administrative assistants with a schedule shell with sections and Day/Night designations. The admin assistants populate days, times, and instructors. We build the schedule for the full year. There are several rounds of proofing and then students register for the full year in April and classrooms are assigned one term at a time.

We just recently began using UniTime so we cannot adequately measure the ROI from the software yet as it relates to Time to Degree and Improved Graduation Rates. However, we do anticipate an improvement once utilizing the system for another year or two.

We use a decentralized scheduling process. Each department creates its own class schedule and enters their schedule in CLSS, which is then downloaded into our SIS. Updates are made and then down loaded into S25 for room assigning. Room assignments are then migrated back to the SIS.

We recently starting working with AdAstra for them to analyzing our scheduling and room utilization and await their analysis on what we can do better. We do have some limitations on technical courses only being given once in a semester so if you start in the "wrong" semester it could delay your completion. Also we want to start encouraging students to attend year around and to do so we will have to add classes to our summer schedule.

We have a "point system" which each department must observe; popular time blocks are given more points. All departments must remain within a specified average for all their courses. The associate dean is responsible for managing the point system.

Faculty preference rules at our institution. At times, this is done even to the detriment of the scheduling blocks, which makes room scheduling even more complex. In addition, if we don't have high enough enrollment in a course to run the course, and we have a student that has to take the course, we offer it as an independent study done in consultation with a faculty member (the independent study & internship courses do not count in a faculty member's required load.).

Our offices schedules both undergraduate, graduate, and professional. A total of three individuals do all of the scheduling in the office with the requests coming from the departments. It is a partnership.

We have developed an in-house software solution that allows the academic departments to input the class schedule according to an established timeline for their department. The Registrar's Office then manages and validates the process and schedule.

Our college keeps talking about year-round scheduling, however, we can't even get scheduling nailed down for one term at a time. In my opinion, too many classes are changed after students are enrolled, and sometimes even after the term has started. Faculty are given way too much control over the schedule they want to teach-not always done for reasons of helping students.

Academic Departments submit the courses that they would like taught from their departments along with requests for times and classrooms.

We are trying to do more predictive data analytics using Degree Works SEP data. We have developed reports and have been sharing this data with the colleges and academic depts.

While our institution does encourage following the time blocks, many of the schools deviate to facilitate pedagogical and/or programming needs. We do not currently use Classroom Scheduling software, but we are in the middle of implementing EMS. We are a Colleague school on unidata. Classroom Scheduling oversees classroom assignments and section setup. There are three of us - two coordinators and an Assistant Registrar. The two coordinators primarily focus on section setup for all undergrad/grad and non-credit offerings for the institution. The university is considering multi-term registration where students could register a full year ahead for three semesters (Fall/Spring/Summer), however current curriculum and academic scheduling processes don't support that model. The academic units and faculty historically build their schedules a term ahead with many, many changes up through priority registration and after.

We are a very small school and don't use scheduling software. It's quite difficult to do it manually every term.

Associate Deans work with department chairs to determine number of courses offered and when those courses are to be offered. Registrar's Office enters all course data into SIS and runs reports/provides feedback as necessary (e.g., finds overlooked time conflicts, courses offered at irregular times, etc.).

We are a small college and cannot offer courses in multiple sections or every semester. Because of this, we try to make accommodations for transfer students and seniors who must have access to certain courses in order to complete their program of study.

We are in the process of implementing both Ad Astra Scheduling and Ad Astra Platinum Analytics through the Enrollment Management office of the Institution.

Ours is a bit of a hybrid model. The departments actually propose their scheduling for the next year and the Registrar's office oversees that it adheres to policy and procedural matters (correct time periods, etc.)