

Keeping Student Voice in Focus:  
An Alternative Method to S.I. Session Scheduling

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*The purpose of this article is to introduce a new methodology that uses Microsoft Excel and online tools to streamline the process of scheduling Supplemental Instruction (S.I.) sessions in order to maximize the contribution students can make to the schedule in a short amount of time. Due to the conflicting time-consuming and time-sensitive natures of scheduling sessions, many programs have gone away from the International Center for Supplemental Instruction's model of soliciting feedback from students across a wide array of days and times. As such, this article also reviews three methods in wide-use that have been adopted to alleviate administrative concerns with scheduling S.I. sessions. The strategy proposed offers an alternative method which allows program coordinators to maintain student-centered scheduling and save time. This strategy takes a process that normally requires several days and condenses it to several hours, without any sacrifice to student input or preliminary data collection.*

## Introduction

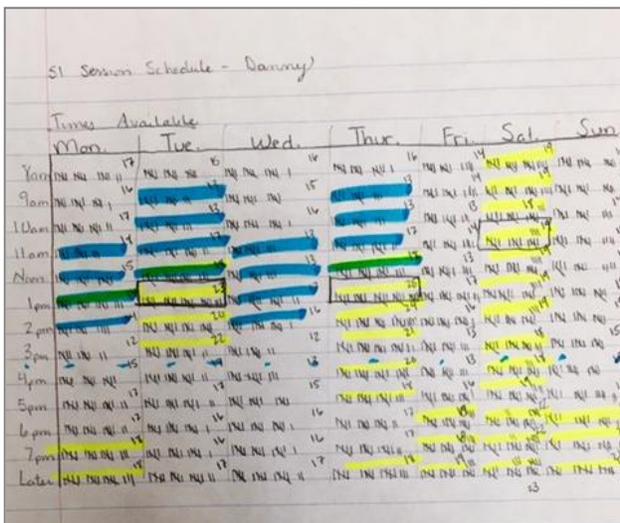
During the first semester of implementing the Supplemental Instruction program at the College of Southern Nevada (CSN), we quickly learned that trying to cram first day of class attendance, student surveys, student feedback analysis (times several hundred), selecting S.I. sessions according to S.I. Leader availability, room requests, and so on was a nearly unmanageable feat. Luckily, it was only semester one, we were only supporting six different classes, and there were only roughly 200 student surveys to get through. However, as semester two and over 800 student surveys loomed, either sacrifices to including students in the scheduling process or to collecting additional data had to be made – or the process of scheduling sessions had to be modified.

For most Supplemental Instructor coordinators, scheduling S.I. sessions probably goes (or used to go) something like this:

1. Administer digital or paper surveys to all students enrolled in an S.I.-supported course
2. Provide students a matrix (like the one provided in the International Center for Supplemental Instruction's manuals) that solicits feedback on potential sessions times spanning from 8:00am until 7:00pm across six or seven days a week, for a grand total of 42-49 fields per student
3. Go through every student survey one-by-one and record their responses, likely with a tally mark, to identify the best and worst session times
4. Cross reference the newly identified best session times with class schedules and S.I. Leader availability for each S.I. Leader and course

5. Contact the S.I. Leader with selected, best-fit times and seek confirmation that this is an acceptable schedule
6. Wait [im]patiently to obtain said confirmation from the S.I. Leaders
7. Submit a room request to allocate space in which to host the S.I. sessions
8. Communicate to the S.I. Leader, campus administrators, professors and students the S.I. session schedule
9. ....All by Friday.
10. Moreover, for anyone who has gone through this process before, they probably

have or have had something that looks like the image in *Figure 1*. As our number of S.I. Leaders steadily grew from six to sixteen, and finally to our current numbers ranging from 20 – 26 S.I. Leaders, these nine steps grew increasingly unrealistic.



*Figure 1*

modify the process for session scheduling. Each of these alternatives will be discussed below. The end result of this project was the creation of a new scheduling system that allows us to survey all of the students, still providing a full matrix with 42 different time options, while also gathering important pre-semester data such as, “How likely are you to participate in S.I.?” and “What grade do you want to get in this class?” This scheduling system meets both administrative demands and the needs of the diverse

student population at the institution and can be used not only for Supplemental Instruction programs, but tutoring programs who can only offer a small number of select hours per week.

## **Background**

### **The College of Southern Nevada**

A driving reason behind developing a home-grown solution to S.I. session scheduling was the highly diverse nature of today's student populations, including the one at this institution. The College of Southern Nevada is the largest and most ethnically diverse college in Nevada with a student population exceeding 30,000 students (FTE and PTE combined). There are three main CSN campuses and seven satellite learning centers across Las Vegas and neighboring cities. CSN is a Hispanic-serving institution with a richly diverse student population, much like Las Vegas itself.

A trend among community colleges, only 25% of the students enrolled during the Fall 2014 semester attended full-time (CSN Report to NSHE, 2015). As many as half of all enrolled CSN students are non-traditional students (over age 24), many of whom work full-time and/or multiple jobs and have vast numbers of responsibilities outside of the classroom. This fact is evidenced by over 20% of CSN students taking courses after 5:00pm and later into the evenings (CSN Facts in Brief, 2011).

It is the combination of these factors that facilitates an increased sensitivity to S.I. session scheduling. In order to best serve the CSN student population, it is critical to collect as much information as possible from the students in order to maximize the potential that they can participate in the Supplemental Instruction sessions for their class.

## **CSN's Supplemental Instruction Program**

The Supplemental Instruction program at CSN is in its second year. Our S.I. program provides support to gateway courses in Biology, Chemistry, and the Health Sciences. The S.I. Program also supports college trigonometry and calculus courses. During the Fall 2016 semester, the S.I. program provided support to 431 unique students with an average of 20% participation across all courses and a high of 50% participation in others. The average decrease in D, F and W grades received across all courses was 32% for S.I. participants, when compared to non-participating students. The S.I. program at CSN is currently grant funded, but it is continuing to grow, develop, improve, and provide support to more students each semester. The growing size of our S.I. program and the amount of student survey responses we have received as a result has allowed for thorough testing of the scheduling method for various-sized programs.

### **Review of Alternative Scheduling Options**

Before making the decision to develop a home-grown scheduling system to meet our needs, I explored existing scheduling alternatives, several of which are discussed below. In a recent list-serv solicitation, I found that many programs are using these options and are able to quickly and effectively complete the session schedule. This article intends only to offer an alternative method for scheduling that does not have any of the perceived limitations discussed below.

### **Pre-Selected Times**

Scheduling Supplemental Instruction sessions or limited tutoring hours using pre-selected session times likely involves procedures such as:

1. Review the course offerings for the supported course(s) and others in the same degree pathway to inform session selection
2. Review attendance data from any previous semesters to inform session selection
3. Select session times
4. Communicate to all stakeholders the schedule
5. Upload the selected session times into the student registration system, when possible

One alternative method often used to streamline the process of scheduling S.I. sessions and/or limited tutoring hours is to pre-select session times. For some institutions, the schedule can be included in the registration information so students know prior to beginning the course when the S.I. sessions and/or tutoring hours will be offered. Unfortunately, this is not an option at all schools, including at the College of Southern Nevada.

In cases where the session schedule cannot be communicated to students during registration, there are still options to maximize the potential that the session times selected will be a good fit for students' availability. Program coordinators shared with me processes of evaluating the course offerings for any given degree plan and mapping the S.I. sessions around those course schedules. Other strategies include looking at previous year data, or keeping the session times the same from one semester to the next. One more safe-guard for this strategy is to consistently schedule sessions either directly before or directly after the scheduled course.

**Perceived Limitations.** For the Supplemental Instruction program at the College of Southern Nevada, this method presents the limitation of not soliciting student

feedback and using it to determine the session times. Due to the diverse, non-traditional student population at CSN, there is serious concern about our ability to effectively predict available times for students. In an attempt to maintain the S.I. model's goal of scheduling sessions around the students, this option was ruled out.

### **Limited Schedule Options**

Scheduling Supplemental Instruction sessions and/or limited tutoring hours using limited session time options likely involves procedures such as:

1. Review the course offerings for the supported course(s) and others in the same degree pathway to inform session selection
2. Review attendance data from any previous semesters to inform session selection
3. Select session times to provide students
4. Administer digital or paper surveys to all students enrolled in a supported course
5. Provide students a matrix that solicits feedback on potential sessions times, likely 4 - 6
6. Go through every student survey one-by-one and record their responses
7. Cross reference the session times with class schedules and availability for each staff member and course
8. Communicate to all stakeholders the schedule

A second method to which I was introduced, one that appears to be widely used, is to limit the schedule options from which students may choose. This alternative scheduling option preserves the student-input piece of S.I. or tutor scheduling to further maximize the potential that students will be able to attend while simultaneously

decreasing the time required to analyze student feedback and select optimal session times.

This method can be used effectively in conjunction with several of the strategies discussed above, such as evaluating course/degree program schedules and choosing time options consistent with those of previous semesters. While using this method does vastly decrease the amount of data collection and analysis required, the person(s) completing the schedule will still need to undergo a process similar to the nine-step procedure outlined above to select optimal session times.

**Perceived Limitations.** Despite the fact that this option is a best-of-both-worlds solution, the limitations of a pre-set session schedule apply to this method as well. Additionally, the fact that this option does not take away the need to go through a manual tallying process makes it a non-ideal solution for our program and student population. As with any manual system, there is always increased potential for calculation errors as well. Even for smaller programs and session time selections, there are hundreds of tally marks to be recorded and calculated by hand.

### **Doodle Poll**

Scheduling Supplemental Instruction sessions and/or tutoring hours using a Doodle Poll likely involves procedures such as:

1. Create a survey on *Doodle.com* with all of the available session days and times
2. Administer digital surveys to all students enrolled in a supported course
3. Review the survey results and select the times with the highest student favorability

4. Cross reference the session times with class schedules and availability for each team member and course
5. Communicate to the all stakeholders the schedule

A third and final option, one that we explored closely at CSN, is the use of a Doodle Poll. *Doodle.com* is a free internet service that allows program coordinators to create a poll specifically designed for scheduling. The use of this poll allows program coordinators to add as many or as few options to the schedule as desired and to collect all feedback electronically. Moreover, Doodle does the all of hard work; after the students' responses are submitted, Doodle will identify the session time selected most often (or least often if the request is for times *not* available) and return the best fit session time. Users can also scroll through all of the options, see the total number of responses, and select different and/or several times.

Doodle Polls are free, easy to use, and easy to set up. It appears that many programs have chosen to utilize a Doodle Poll (or other, similar software) to complete the S.I. session or tutoring schedule. Doodle also has a paid version of its popular software that increases usability options with extra features such as automatic reminders and the ability to request additional information.

**Perceived Limitations.** The perceived limitations of the Doodle Poll software are focused on the free version. While the paid versions of the software do address most, if not all, of these limitations, the answer to any paid solution tends to be “find a free solution” as budget limitations and cuts become an increasingly present concern in Higher Education.

The biggest limitation to the Doodle Poll scheduling option is the lack of ability to ask additional questions and solicit information from the survey participants. The session scheduling form provided by International Center for Supplemental Instruction suggests asking students how likely they are to attend, why they are enrolled in the course, what grade they want in the course, and what grade they *expect* to receive in the course. All of this data has proved to be immensely valuable in post-semester analysis and when making determinations about continuing to provide support in a particular class during the ongoing pilot phase of our program.

An additional limitation to the exclusive use of Doodle Polls for scheduling is response rate. While at CSN we have been very successful in obtaining a high rate of response from online surveys that is not true of all cases. When no pen-and-paper alternatives are prepared for scheduling, courses with low Doodle Poll response rates would presumably need to defer back to the nine-step process outlined in this article's introduction or just select session times independent of adequate student feedback.

## **Summary**

Different options were considered as alternatives methods for completing S.I. or tutor scheduling. The use of pre-selected session times, limited session times, and online polling software such as *Doodle.com* were all discussed, including perceived strengths and weaknesses. In each of these options, sacrifices to information gathered or amount of student feedback had to be made in order to adopt a more realistic, time-appropriate system. The remainder of this article seeks to present a new, free option for completing the schedule with neither of these sacrifices.

## **A Home-Grown Solution**

In order to address the time concerns of Supplemental Instruction or tutor scheduling without limiting the role of student feedback in the scheduling process, a two-part solution was implemented using Google Forms and Microsoft Excel. This scheduling method has been utilized for scheduling S.I. sessions during the past two semesters (Fall 2016 and Spring 2017) with great success. From start to finish, the analysis of student survey results has taken roughly two hours each time for 26 and 20 S.I. leaders, respectively. For the current semester, all schedule selection and confirmation was completed by 3:00pm on Thursday afternoon of the first week of classes, allowing all Friday for the arrangement of space with the gracious assistance of the campus administrators.

Scheduling Supplemental Instruction sessions using Google Forms and Microsoft Excel involves procedures such as:

1. Recreate the pen-and-paper student survey digitally using Google Forms, including the complete matrix of session days and times
2. Export student survey responses into Excel
3. Clean-up the Excel data using Find & Replace and sort functions
4. Use the Subtotals function to calculate a table of ideal session times for each staff member
5. Apply color scales to the session time tables to visually guide selection
6. Send student feedback to all staff members and have them select the session times based on student input
7. Communicate to all stakeholders the schedule

## **The Student Survey**

The student survey provided by the International Center for Supplemental Instruction was adapted to an online format using Google Forms, a free service embedded in the Google Drive application. The use of Google Forms allows for the acquisition of additional information from students. Being an electronic form, this also allows for the ability to change and update the questions from one semester to the next as data collection and programmatic assessment becomes more robust.

The Google Forms student survey includes a drop-down question where students select the S.I. supported course in which they are enrolled. Each of the questions on the paper-and-pencil student survey have also been included on the

Google Form. While not being used in our form currently, Google Forms has more robust capabilities such as skip-logic for more dynamic forms to meet diverse needs of various institutions.

Please mark your availability below.

Please fill out the schedule below to help us determine the most convenient times to schedule S.I. sessions. Mark the hours that you will NOT be able to participate in an S.I. session (work, class, etc.)

**Monday**  
Select the hours that you know you will NOT be able to participate in an S.I. session (work, class, etc.).

	Times NOT Available
8 a.m.	<input type="radio"/>
9 a.m.	<input type="radio"/>
10 a.m.	<input type="radio"/>
11 a.m.	<input type="radio"/>
Noon	<input type="radio"/>
1 p.m.	<input type="radio"/>
2 p.m.	<input type="radio"/>
3 p.m.	<input type="radio"/>
4 p.m.	<input type="radio"/>
5 p.m.	<input type="radio"/>
6 p.m.	<input type="radio"/>
Later	<input type="radio"/>

Figure 2

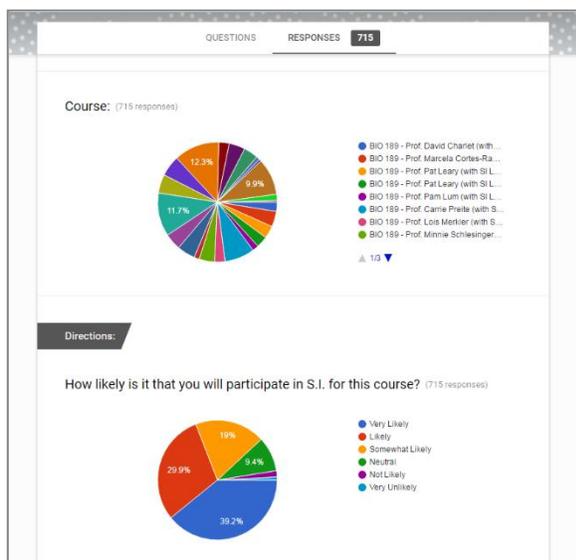
The 1 of the student survey is the day-by-day matrix of session times, as shown in *Figure 2*. Students answer a question for each day of the week, with time options ranging from 8:00am until 7:00pm. Students select the times during which they are *not* available to attend a

Supplemental Instruction session for each day, and then they submit the form. A feature is enabled to allow the student to edit their responses after they submit. Students also

receive a confirmation message after submitting their responses. Notifications may be toggled on or off to notify the S.I. coordinator that a response has been submitted.

Finally, the form can be closed for responses to disable students from submitting after a set deadline.

**Data Provided.** The student survey created in Google Forms will generate survey statistics in the “Response” tab that provide a helpful snapshot of the



*Figure 3*

Spring 2017 scheduling survey data from 715 students.

The Google Form allows for a data export of all of the responses as a CSV file into an Excel spreadsheet. This data export is used to conduct time analysis and set the S.I. session schedule. This process is described in detail below.

**Limitations.** The only limitation identified thus far in using the Google Form for the student survey is the inability for respondents to un-select an incorrectly selected time. Though this is certainly a limitation, it has not had an impact large enough to justify not using the form.

submissions. These quick-glance stats are extremely useful for monitoring the response rate for any given class, as well as providing a high-level overview of the submissions for reference after the session schedule has been set. An example of the snapshot data provided by the built-in response tab can be seen in *Figure 3*, which is an actual snapshot of

## **Determining Session Times in Microsoft Excel**

After the survey responses have been collected in the online student survey, the data is exported to an Excel spreadsheet on which all of the data analysis is completed in order to provide S.I. Leaders with *all* of the options available to them for selecting their session times. Providing S.I. Leaders with a range of times derived from student feedback also allows for greater autonomy of the S.I. Leaders in setting their own schedules, which has decreased the frequency of mid-semester scheduling issues.

**Cleaning Up the Data.** The first step to this process, as with almost any Excel project, is to take some steps to “clean-up” the data. When completing the schedule, all pre-semester data questions are removed. The only fields that I retain when completing this spreadsheet are the available session days/times and the question, “How likely are you to participate in S.I.?” The second piece of data clean-up is for the responses in the time matrix. Excel will return a value for each day/time that respondents selected; this value depends on the column label set in the Google Forms survey. *Figure 2*, shows the label “Times NOT Available” – this is the value returned by Excel in the data export. Using the “Find & Replace” function in Excel, replace all occurrences of this value with the number one, as illustrated in *Figure 4*. This allows for the use of the subtotal function, which will be described below.

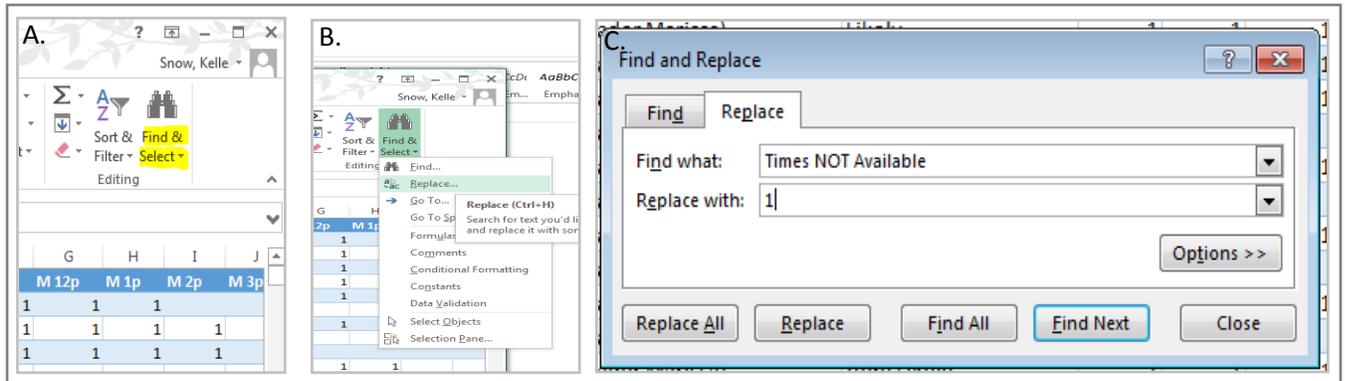


Figure 4: (a,b) Locating the “Find & Replace” function. (c) Inserting a numeric value for the time matrix.

**Calculating Optimal Session Times.** After the data has been cleaned-up using the steps above, sort all of the responses alphabetically by course. Use the “Subtotal” function in Excel to create a summary table out of the sorted data, which provides an overview of most and least selected session times. Access Subtotal in the “Data” tab on the ribbon; it is important to note that this function only works with a data range and will be greyed out if the data has been converted to a table.

Calculating subtotals for each day/time option at each change in course will build the summary table necessary to finish the S.I. session schedules. Subtotal is a unique function in Excel and will essentially split the workbook into three layers, each with varying amounts of information. The first layer will only provide grand totals, or all of the *total* counts for each day/time, with no division by course. The second layer, the one used in this project, will provide a total count for each day/time combination for each individual course. Finally, the third layer will have the same subtotals as layer two, but will also display in between each all of the entries that contributed to that count (i.e. all the student responses for each course).

The subtotal table provided in the “level 2” view of the spreadsheet contains all of the information necessary to make data-driven, student-centered determinations for S.I. session times. The calculation of the subtotal table will take only a few minutes, limited only by the amount of data being calculated. Moreover, the information displayed in the subtotal table is the digital equivalent of the tally table in *Figure 1*, something familiar to

	A	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Course:	Mon. [8	Mon. [9	Mon. [10	Mon. [11	Mon. [12	Mon. [13	Mon. [14	Mon. [15	Mon. [16	Mon. [17	Mon. [18	Mon. [19	Tue. [8	Tue. [9	Tue. [10	Tue. [11	Tue. [12	Tue. [13	Tue. [14
23	BIO 189 - Prof. A.Z. (with SI Leader Marie) Count	11	12	10	10	13	12	9	6	12	10	15	12	11	11	9	9	9	8	9
27	BIO 189 - Prof. B.W. (with SI Leader Glenn) Count	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
85	BIO 189 - Prof. C.P. (with SI Leader Marissa) Count	39	38	36	32	33	31	27	29	32	29	30	29	34	32	24	35	46	25	23
101	BIO 189 - Prof. D.C. (with SI Leader Bree) Count	9	9	7	8	9	10	8	9	7	8	7	7	11	11	10	10	9	7	13
122	BIO 189 - Prof. L.M. (with SI Leader Brian) Count	12	12	12	11	12	11	15	13	12	12	12	9	10	10	11	19	19	8	10
151	BIO 189 - Prof. M.C.R. (with SI Leader Saren) Count	15	14	14	14	13	12	9	11	9	13	9	11	13	13	12	17	16	13	13
182	BIO 189 - Prof. M.S. (with SI Leader Nayeli) Count	25	24	24	23	22	21	22	21	19	18	18	14	18	18	17	21	19	19	19
195	BIO 189 - Prof. P.L. (with SI Leader Jessica) Count	6	5	5	8	8	6	8	7	8	8	8	9	9	9	7	7	8	8	8
218	BIO 189 - Prof. P.L. (with SI Leader Naidelin) Count	16	19	17	10	14	13	11	13	12	13	15	13	14	17	15	16	15	14	12
239	BIO 189 - Prof. P.L. (with SI Leader Shaymaa) Count	11	12	13	12	8	11	12	13	13	14	11	9	12	12	10	11	10	12	11
247	BIO 189 - Prof. R.T. (with SI Leader Glenn) Count	6	6	5	4	4	5	5	5	4	4	4	4	5	6	5	5	4	4	4
275	CHEM 241 - Prof. B.S. (with SI Leader Adriana) Count	18	18	16	16	19	20	21	19	19	16	15	12	20	21	18	18	21	19	22
348	EMS 108 - (with SI Leader Ana) Count	49	48	45	38	42	40	43	42	40	39	38	34	46	44	43	38	38	39	45
354	IS 101 - Prof. M.T. (with SI Leader Sam) Count	2	2	2	2	4	3	3	1	2	3	2	2	3	3	3	4	4	3	2
366	IS 101 - Prof. M.T. (with SI Leader Shyann) Count	7	7	6	6	7	8	7	6	5	4	4	6	6	6	6	5	7	5	4
384	MATH 127 - Prof. J.L. (with SI Leader Gibran) Count	10	13	12	11	9	8	8	8	7	6	7	8	8	12	11	8	11	10	9
414	MATH 181 - Prof. E.H. (with SI Leader Lisa) Count	19	20	20	17	18	14	15	13	12	15	14	14	17	21	19	21	21	11	13
424	NURS 130 - Prof. V.N. (with SI Leader Monisha) Count	5	2	2	3	3	3	3	6	6	5	5	3	4	2	3	3	3	2	3
438	Other - please write course in comments Count	6	6	6	6	6	6	6	7	7	5	4	4	4	4	4	6	6	3	5
439	Grand Count	266	267	252	231	244	234	232	229	227	222	218	200	245	252	227	253	267	212	225

*Figure 5*  
 most S.I. coordinators. An example of what the final output looks like in the subtotal table can be seen in *Figure 5*.

**Selecting Times.** For ease of use and protection of the source data file, all of the information provided in the subtotal data table (*Figure 5*) is copied over to individualized matrices for S.I. Leaders. Color Scales (found in “Conditional Formatting” on the “Home”

COURSE: BIO 189 - Saren						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:00am	15	13	14	13	10	13
9:00am	14	13	15	13	10	12
10:00am	14	12	15	12	12	10
11:00am	14	17	16	17	11	9
12:00pm	13	16	14	17	11	9
1:00pm	12	13	12	15	12	7
2:00pm	9	13	10	10	10	8
3:00pm	11	14	10	12	8	11
4:00pm	9	10	10	8	9	11
5:00pm	13	9	10	8	12	12
6:00pm	9	8	8	8	11	12
7:00pm	11	13	12	12	13	14

*Figure 6*

tab) are applied to each S.I. Leader’s matrix to provide a more visual representation of the students’ feedback, as shown in *Figure 6*. These

colored tables are sent to each S.I. Leaders with instructions to choose any three session times from the green-colored boxes. In the event that the S.I. Leader is unable to choose from the green options, they must select from yellow and communicate with me about their choice(s). The use of the individualized tables allows S.I. Leaders to have autonomy and flexibility by choosing their own session times, but also ensures that all session times chosen are done so with the students in mind. Complete step-by-step instructions for this process are provided in the Appendix.

### **Conclusion**

Supplemental Instruction session scheduling is a time-consuming process during a week when time is in particularly short supply. Several approaches have been developed to combat the time-cost of scheduling, but each requires a sacrifice of either student-dictated session times or the ability to solicit additional information from students prior to the start of the semester. The goal of this article was to provide an alternative method for scheduling S.I. sessions or tutoring hours that will meet the needs and challenges of diverse S.I. programs, tutoring programs and institutions.

By utilizing Google Forms and Microsoft Excel, institutions can streamline the scheduling process and drastically reduce the time it takes to schedule S.I. sessions and/or tutoring hours while still collecting student feedback for a maximum array of session times. This approach also aims to be dynamic, allowing room for changes and modifications for different programs and for developments within programs. By implementing this method, Supplemental Instruction and tutoring programs can maintain their student-centered scheduling approach and still meet what were once likely-

unrealistic deadlines for setting up the session schedule, all while doing away with the hundreds of tally-marks looming around the corner at the start of next semester.

### References

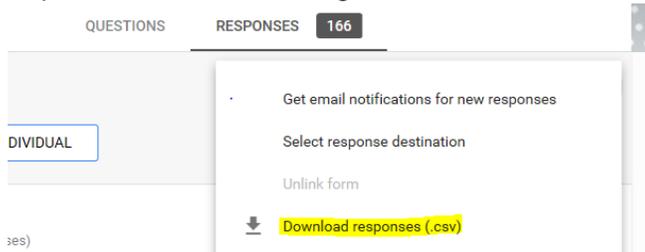
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## Appendix

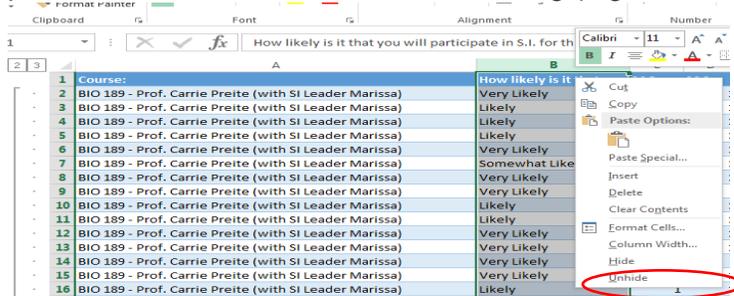
### How to Complete the Session Schedule Grid for S.I. Leaders

Follow these step-by-step instructions to filter the raw data and retrieve the information necessary to complete the session schedule grids to send to S.I. Leaders.

1. Export the data from Google Forms into a CSV file (this will open in Excel)

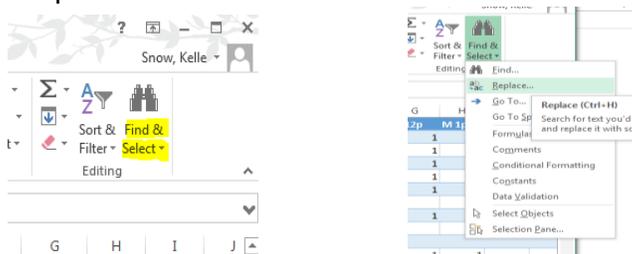


2. In the Excel file, right click the column label to either “Hide” or “Delete” the columns that provide information unrelated to scheduling (e.g.: “How likely is it that you will participate in S.I. for th

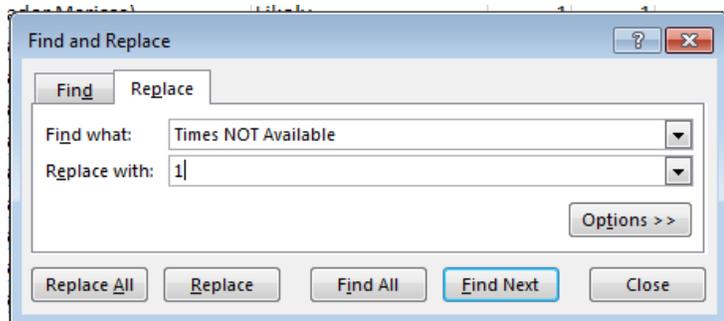


3. (Optional Step) To make your table smaller and easier to see on the screen, you can shorten the Column Labels for the Days and times. For example, you can replace “Monday 8 a.m.” with “M 8a”.

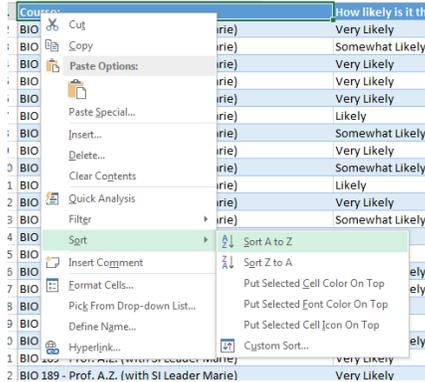
4. Replace each instance of the text “Times NOT Available” with the number 1. To do this, click “Find & Select” in the top right corner, and from the drop-down options select, “Replace...”



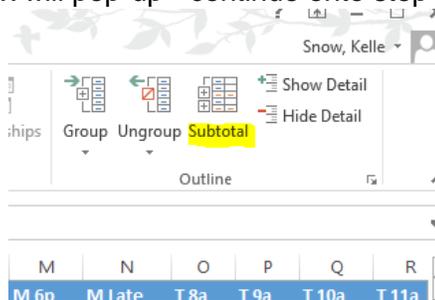
5. Step 4 will open up a dialogue box. Either type or copy and paste “Times NOT Available” in the first box, and then enter “1” in the second box. Then, hit “Replace All”



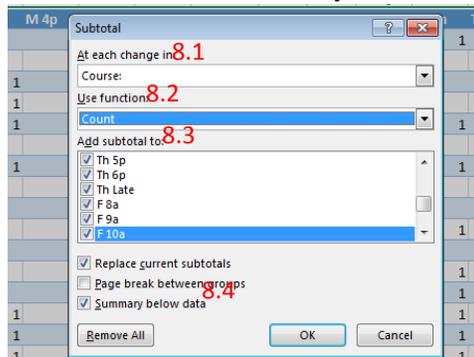
- Right click on the column label for course (column A in the image above) and sort A-Z by course.



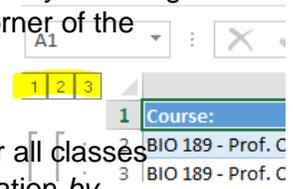
- After completing steps 1 -5, you can build your student response grids. In the “Data” tab, select “Subtotals”. Click “Data” on the top ribbon, and then select “Subtotal”. A dialogue box will pop-up - continue onto step #8 for more details.



- In the pop-up dialogue box, select the following:
  - “At each change in”: Course
  - “Use function”: Count
  - “Add Subtotal to”: select every day and time option provided (M – S, 8am – Late)
  - CHECK “Summary below data”



- After applying the subtotal function (may take several seconds – minutes), your worksheet will be split into three layers. You can toggle between the layers by selecting the square, numbered buttons that are now visible in the top, left-hand corner of the working area of the spreadsheet. Each layer displays different information:



Layer 1: Only the **grand total** count for each day/time combination for all classes

Layer 2: A summary table of the total count for each day/time combination by individual class

Layer 3: All of the raw data with subtotal rows inserted between each class

- Toggle to the “2” view layer to access the summary table. This summary table will provide all of the information necessary to create the S.I. session grid to send to S.I. Leaders.

Helpful Tip: Add thick, right borders for the last time in each day (i.e. “M 7pm”) so that it is easy to differentiate when the next day starts

- Transpose the information (each row = one grid) into the grids to send to S.I. Leaders. You can do this in a separate tab or a separate workbook.
- Apply color scales to the completed grid to make it easy for S.I. Leaders to select their session times with students’ availability in mind. To do this, highlight all of the data (not the labels) in your grid and select “Conditional Formatting” on the “Home” tab. In the “Conditional Formatting” menu, select color scales and apply the “Red-Yellow-Green” scale, which is the second option on the top row.

The screenshot shows an Excel spreadsheet with the following data:

COURSE: BIO 189 - Marissa						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:00am	26	23	24	23	19	21
9:00am	26	20	22	23	16	18
10:00am	26	14	21	19	13	16
11:00am	22	21	18	25	10	13
12:00pm	21	30	23	29	9	11
1:00pm	21	18	21	20	10	10
2:00pm	18	16	19	17	11	12
3:00pm	19	8	19	11	14	15
4:00pm	22	11	21	12	19	17
5:00pm	21	15	21	16	20	20
6:00pm	23	19	23	19	22	21
7:00pm	23	19	23	20	22	20