Guide for Evaluating Program Schedules & Modalities

This guide is intended to assist faculty with evaluating their academic programs to develop a course schedule that maximizes students' ability to work through the curriculum as efficiently as possible. Of particular concern are scheduling "bottlenecks," where students are impeded during their progress to degree by difficulties completing requirements due to scheduling conflicts or a lack of flexible options. The ultimate purpose of this guide is to reduce or remove bottlenecks to ensure that your program has more than one "pathway" to degree completion, to ensure that students with varied time and schedule constraints can complete your program efficiently and effectively. A one-page summary version is linked here.

Step 1 - Evaluate Programs of Study

Start with your program of study and evaluate its complexity with a particular eye to determining specific courses that are or could become critical bottleneck points, and that are central to the pathways that students can (or must) take through the program to complete their degree.

Some programs may have four-year plans of study (e.g., Electrical Engineering) which lay out the course sequencing for students. Obviously these plans provide a pathway for FTIAC students. Other pathways (e.g., transfer) can and should be assessed, but it is likely more effective to evaluate one at a time. If your program does have such a plan you can use it to conduct a curricular analytics assessment where you can see an interactive visualization of your program's curriculum complexity. A curricular analytics assessment gives faculty another way to assess the roadblocks students face when navigating your program.

If your program does not have an articulated plan of study then you will either need to create one or determine which courses should be your program's focus for evaluation. We recommend concentrating on the following elements for identifying specific courses that might be causing scheduling difficulties and bottlenecks for students pursuing their degrees:

Curriculum structure/requirements:

To identify critical bottleneck points, it is helpful to work through the curriculum from most specialized requirements (i.e. to complete a specific course) to least specialized requirements (i.e. to take one course from a list of many courses). For each type of requirement, identify potential impediments to regularly offering courses that fulfill that requirement. For example, bottlenecks might occur if only one faculty member can teach a specific course or field/area requirement (i.e., what happens if that faculty member is on sabbatical?); if very few courses

fulfill a field requirement (i.e., are enough courses regularly offered to cover all field requirements?); or courses that you know are offered on an infrequent basis or have been historically challenging to schedule.

- Specialized (i.e., specific required) courses. For example, all students in Electrical Engineering must take ECE 4951. These courses are critical to include in the program pathway, as students have no alternative routes through the curriculum.
- Prerequisites or corequisite courses. Do certain required program courses also include a prerequisite and/or corequisite course? If so, those courses should be identified as part of the program pathway, especially if they are also specialized courses.
- Subject area or subject field requirements. Often disciplines will require (or provide as an option) a subject area or concentration which includes a list of courses that a student could take to fulfill credit hour requirements. These area/field requirements may only provide flexibility to students if there are enough courses regularly offered for students to have scheduling choices.
- Dearborn Discovery Core (DDC) courses. If your program offers courses that count towards DDC requirements, it is important to assess how these courses could affect students' path towards their degrees (even for students not in your own program). Prioritizing online and hybrid modalities for your program's DDC courses, particularly those that count towards more than one DDC category, could increase scheduling flexibility for many students across campus.

Curriculum Sequencing

Sequencing is an important factor in a student's studies, particularly for majors that involve specialized requirements, including pre- or core major courses. As a result, it is vital that disciplines overseeing complex curriculums take notice of a student's ability to successfully navigate these longer complex curriculum pathways. Are required sequenced courses offered regularly and predictably? Are more flexible scheduling options available regularly and predictably?

Program Exceptions

We strongly encourage disciplines to take into account the exceptions they make to their program. All disciplines at UM-Dearborn have intentionally designed their curriculum to deliver high-quality academic instruction. When an exception is made to a program through the use of a petition it represents a disruption in the prescribed flow of the curriculum. Rare or occasional exceptions are normal but when many exceptions are granted for certain program requirements, disciplines should begin to ask questions. These exceptions may indicate a particular bottleneck that students are facing when trying to complete their degrees.

A stand-alone WebFOCUS report (#1220) on Degree Audit Exceptions can provide a list of all applied exceptions, filtered by student level and college (we have requested a program-level filter be added to this WebFOCUS report). Click on the "WebFOCUS Access Request" tab if

you do not currently have access to the report and would like to request access.

Scheduling Philosophy/Approach

Does your program base its schedule primarily on faculty preferences to teach on certain days or times? While this has been the predominant approach on our campus, a student-centered scheduling approach, further described in Steps 2 and 3, will enhance student completion.

Step 2 - Identify Scheduling Bottlenecks

With your program's course bottleneck points in mind, faculty should make use of their program's course schedules for the prior two years to determine if the identified courses are being offered at a frequency, day/time, and modality that provides students with the ability to take the required (and even optional) courses in a particular semester. Standard time blocks can be found here. Some prompts to consider:

- Does your program require students to take multiple corequisites in a semester? If so, are they scheduled on different days or times?
- What about prerequisites? Does your program schedule its prerequisite courses in the semester before the related course?
- Does your program ask students to satisfy multiple credit hours from a list of courses (i.e., subject area or field of study requirement)? If so, are those courses offered frequently and in ways that do not conflict in the course schedule with one another?
- Are there prerequisites and/or corequisites that lay outside your program's major courses that need to be coordinated with other programs in order to ensure there are no scheduling conflicts?

Step 3 - Consider Student Needs for Flexibility

Just as important as your program's curriculum is a **need to take into account the many constraints on students in your program and courses**. This includes constraints students face from their responsibilities beyond the university, but also hurdles they must face on their path to degree.

To evaluate your program's accessibility and inclusivity for a variety of students, it is helpful to approach your program's schedule with a variety of student constraints in mind. The Fall 2022 Student Experience and Student Needs Survey's

quantitative and qualitative reports identify common issues facing students and include appendices broken out by college and demographics.

Who are your students? After taking a curriculum focused approach, it is also vital to consider your program's course schedule ***from a student's perspective***. Many of our students have care and work responsibilities that may prevent them from taking all the courses in a degree plan in a particular semester. Consider different scheduling constraints students might face on a semester or year basis.

- How difficult is your program to navigate for students who work M-F, 9-5 hours? Or for students who work TTh and can only take classes on MW, or vice versa?
- How difficult is your program for students who have children or other family care responsibilities (i.e. such as parents who could only take classes during K12 school hours, 9-3)?
- How difficult is your program to navigate for students who can only attend school part time (i.e. 3 or fewer courses per semester)?
- With the high number of transfer students on our campus and non-traditional students who often stop out for a time, does your program offer multiple entry, and re-entry, points throughout the academic year? Is a student at a disadvantage in your program if they start at UM-Dearborn in the winter term?

In addition to constraints students might face from their outside responsibilities and constraints, it is vital for each program to consider the long-term consequences of their course schedules for students who are not able to satisfy a particular program requirement in any given semester. Some questions to consider along these lines:

- If there is a specialized course in your program's curriculum that a student needs to complete to advance to the next sequence of course(s), how much time — in terms of semesters — does not satisfying that course delay a student? (For example, if a student cannot complete a class because of course conflicts, how much longer will it take the student to complete the degree? Consider also how missing the ideal sequence might cause future course conflicts if course sequencing is a factor).
- If a student does not receive the necessary minimum grade needed to advance in course X, when will the student be able to retake that course in a timely manner (i.e., how many semesters will they need to wait to continue towards their degree?)?
- If the course is only offered annually are there alternative pathways your program can consider or even a more frequent scheduling of the necessary course?

Step 4 - Identify and Implement Solutions

Once you have identified the critical bottlenecks that students may face in your program, you will need to identify potential solutions. This will likely require at least some adjustments to

course schedules and offerings. Potential solutions might include adding sections, shifting course days or times, offering courses in multiple modalities, offering more courses in certain modalities, etc.

A strategic approach to resolving these bottlenecks requires thinking about how the various requirements for programs and degrees can work together, and likely requires the consideration of how courses are offered across multiple levels and how they fit together (i.e. within field/area requirements, within sequences, in a single semester, in a single year, across multiple years, across a degree, etc.). It would likely be helpful to move away from our previous campus approach of thinking about course delivery only as a modality issue (i.e., in-person vs. online), and instead consider the possibility that any given course could be offered on different days, times, and, yes, in different modalities on a regular basis, to increase scheduling flexibility and choice for students.

In this context, it is worth re-emphasizing that students are particularly interested in being able to complete their degrees in a timely manner, and they have pointed to scheduling conflicts and lack of flexibility as a major impediment. Many students have indicated that they would prefer to take a combination of modalities each semester, and that many students identified online/asynchronous courses as particularly helpful for reducing scheduling constraints.[1] Campus fill rates for in person vs. online courses, including for multiple sections of the same course, show that there is unmet demand for courses in online and hybrid modalities.[2]

Pedagogical needs should take priority. However, many classes can successfully be offered in any modality, by following best practices for course quality that do not depend on modality.

Here are some more specific ideas for how you might strategically alleviate certain scheduling constraints for bottleneck courses or requirements:

- Where student demand and fill rates are high, consider adding additional sections or offering courses more frequently.
- For specialized courses (incl. prerequisites), consider offering these courses more regularly and/or in multiple or alternating modalities.
    - For courses with multiple sections in a semester, could at least one section be offered online/asynchronous; could at least one other section be offered hybrid; could in-person sections be offered on different days?
    - For courses offered once each semester, could the course be offered online/asynchronous every other semester, or at least once every two years? If courses must be offered only in-person, could the scheduled days be different each semester?

[1] A recent study found that taking a combination of modalities each semester may support degree completion, particularly for underrepresented students.
[2] See the Data Appendix.

- If certain specialized required courses cannot be offered more flexibly (such as at different times or in additional modalities), are there other courses in the program that students might take concurrently that could be offered more flexibly?
- For field/area requirements, consider offering one or more flexible course options each semester.
    - For fields/areas with a wide selection of courses students can choose from, could at least one of these courses be offered online/asynchronous each semester; could at least one other option be offered hybrid?
    - For those with a narrower selection of courses, could at least one of these courses be offered online/asynchronous at least every other semester?
- For degrees with specific plans of study, where students have specified courses to take each semester, consider offering at least one of those courses in a more flexible modality each semester (i.e. online/asynchronous).
- When looking at all program offerings for a given semester, could a student complete program requirements with a schedule that includes a mix of modalities? If not, would it be possible to offer some classes in a different modality?
- For programs offering discipline-relevant DDC courses, could at least one DDC course in each covered category be offered online/asynchronous each semester, or each year? Courses that count towards more than one DDC category could be prioritized.

It may not be possible to alleviate all bottlenecks, but it is imperative that disciplines work to minimize program and degree bottlenecks, and maximize diverse pathways to completion, as much as possible.

Ongoing – Regularly Monitor Program for Continuous Improvement

Once the above evaluation and course scheduling adjustments have been made, it is important to be vigilant with maintaining an ongoing evaluation of your program's schedule, with the aim of continuing to minimize bottlenecks as they arise.

From time to time, disciplines should check the state of their program by using some of the resources and tools suggested below, including the monitoring of the DEW rates of program courses.

Helpful resources and tools

Program Review Dashboard

It is important to monitor one's program to take into consideration the success of students. The program review dashboard in WebFocus includes the following program data for faculty to consider during a program review:

- Headcount/student profile data (over the last 10 years)
- Graduation/retention and degrees awarded (over last 5 years)
- Credit hours (with instructor ranks, number of sections, and instructional mode over the last 5 years)
- Grade distributions (over last 5 years)

Programs outside of a program review can also request this data for assessment or evaluation purposes by contacting the Office of Academic Success or visiting the Program Review website.

WebFOCUS Degree Audit Exceptions report

A WebFOCUS report (#1220) on Degree Audit Exceptions can provide a list of all applied exceptions, filtered by student level and college (we have requested a program-level filter be added to this WebFocus report). Please visit the following WebFOCUS website, if you do not currently have access to the report and would like to request access (click on the "WebFOCUS Access Request" tab).

WebFOCUS DEW report

A stand alone WebFOCUS report (#1404) on DEW course grades provides a list of all courses for a selected term along with filters for college/department with the number of enrollments, number of DEW grades, and the calculated DEW rate. The report can be accessed from UM-Dearborn's WebFOCUS page. Faculty and staff that do not currently have access to the report may request access through the "WebFOCUS Access Request" tab.

Fill rates and waitlists

As programs monitor course scheduling on an ongoing basis to optimize for student demand, it is important to consider fill rate data to not only better identify high demand courses that do fill up quickly but also demand for certain course modalities. Currently faculty can utilize the course schedule system in Banner to determine fill rates and waitlist information. Campus leadership is aware that this data source is less than ideal for faculty to access and use high-level program information about fill rates and waitlists. That is why the Office of Institutional Research and Effectiveness is working to create a data warehouse that will collect snapshots in time of data from Banner (and potentially other systems). This will allow the university to create more reports and report on additional data like waitlists, which is currently discarded at the end of the waitlist period. When this new data warehouse is available, it will be announced.