

# Developing effective early interventions for the struggling first year medical student to optimize both academic achievement and wellness

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## Abstract

### Background:

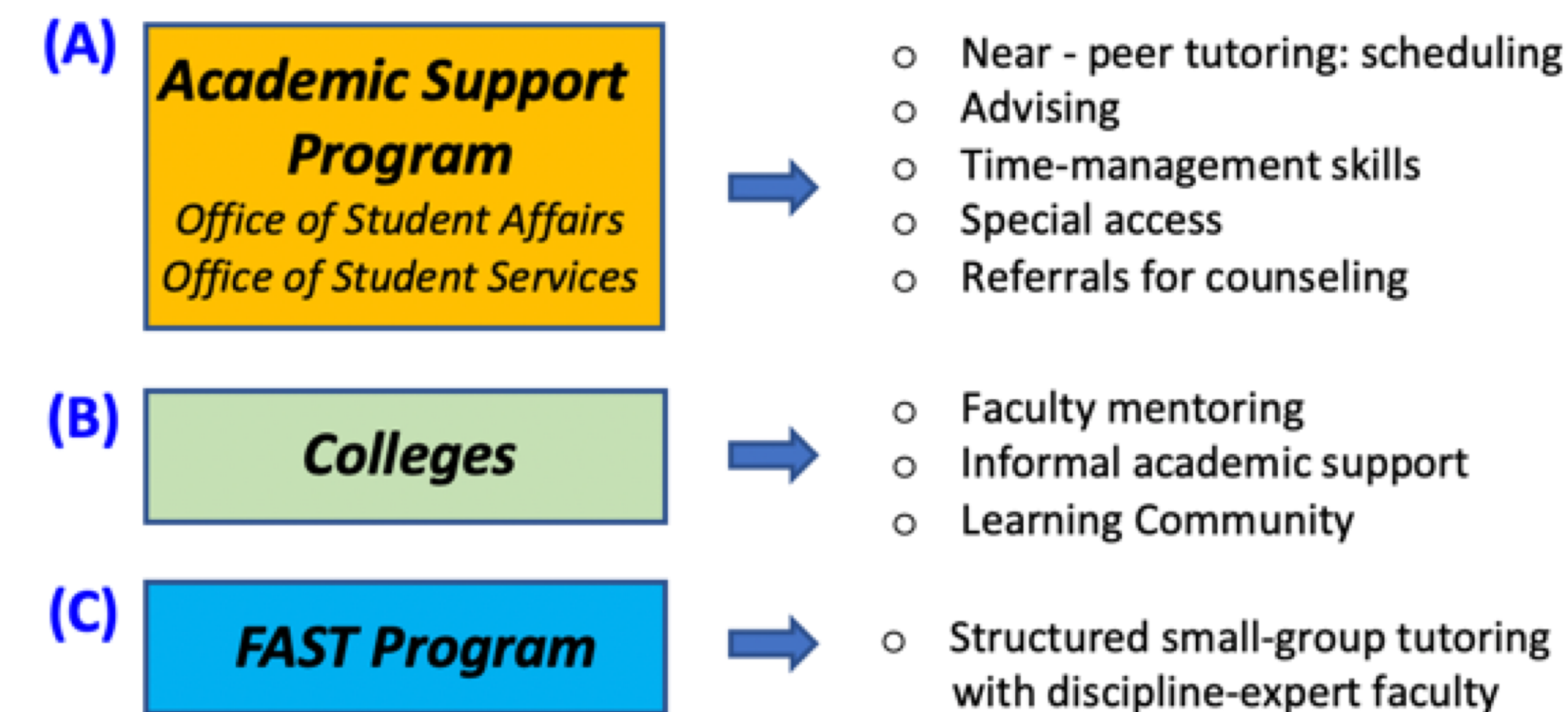
Identifying struggling medical students early in the first year of the curriculum can be accomplished by examining pre-matriculation data and monitoring early performance on formative and summative examinations. However, developing effective interventions for both improving academic performance and enhancing personal wellness is more challenging, as each at-risk student has a unique set of cognitive skills, academic foundations, study habits and life circumstances<sup>1</sup>.

### Program Description:

At the TTUHSC El Paso Paul L. Foster School of Medicine we have implemented several supportive approaches; including mentoring and study skills coaching, near-peer tutoring, a faculty-assisted small tutorial program (FAST Program), and learning communities consisting of Colleges with direct faculty engagement. These approaches have proved complementary, providing students with a supportive learning environment to help them rapidly develop academic skills for successful navigation of the curriculum.

We have generated several sets of student and faculty survey data for evaluation of near-peer tutoring, the FAST Program and the College system. Overlap and synergy between these varied approaches are apparent, along with important gaps that can inform further development. In particular, the FAST Program shows great promise in building important relationships between faculty and struggling students that can significantly reduce stress and stigma for students while rapidly ramping up their content mastery. We are developing instruments to formally assess outcomes of these interventions by comprehensive longitudinal tracking of student achievement.

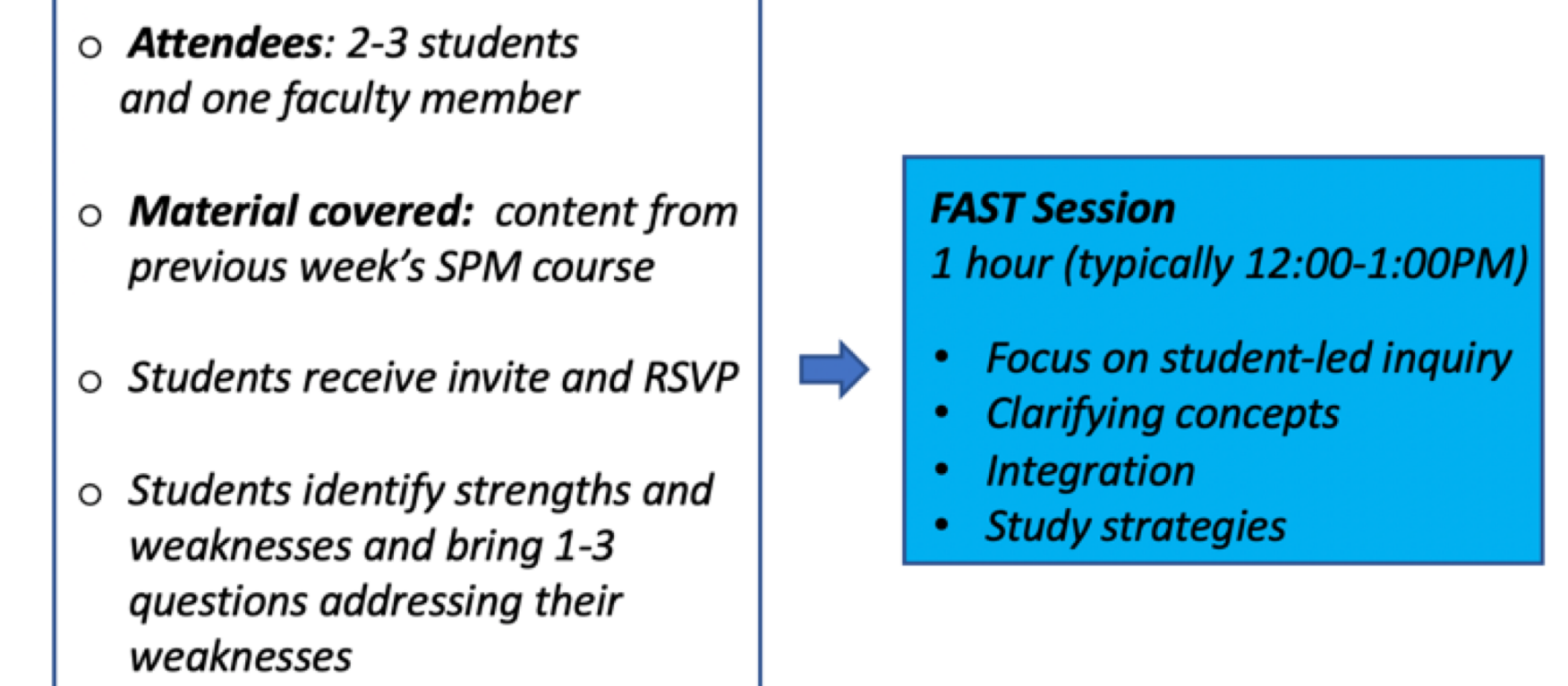
## Complementary support mechanisms for the struggling first-year medical student



### Parallel and overlapping support mechanisms for struggling first-year students.

**(A)** The Offices of Student Affairs and Student Services offer a formally supported Academic Support Program, including full-time advisors and administration of a near-peer tutoring program staffed by second-year students<sup>3</sup>. **(B)** A College system is in place at the Paul L. Foster School of Medicine that provides students dedicated faculty mentors and a Learning Community environment, with an associated discussion-based Colloquium course that covers a variety of study and learning topics, and several sessions on student wellness. **(C)** The FAST is a dedicated tutorial program to engage students in small groups (3 or smaller) with a faculty discipline-expert. These resources, combined, provide a tight support structure to pull struggling students toward the most effective set of interventions, with an emphasis on minimizing stress and stigma and maximizing academic success and personal wellness.

## Faculty-Assisted Small Tutorial (FAST) Session Design



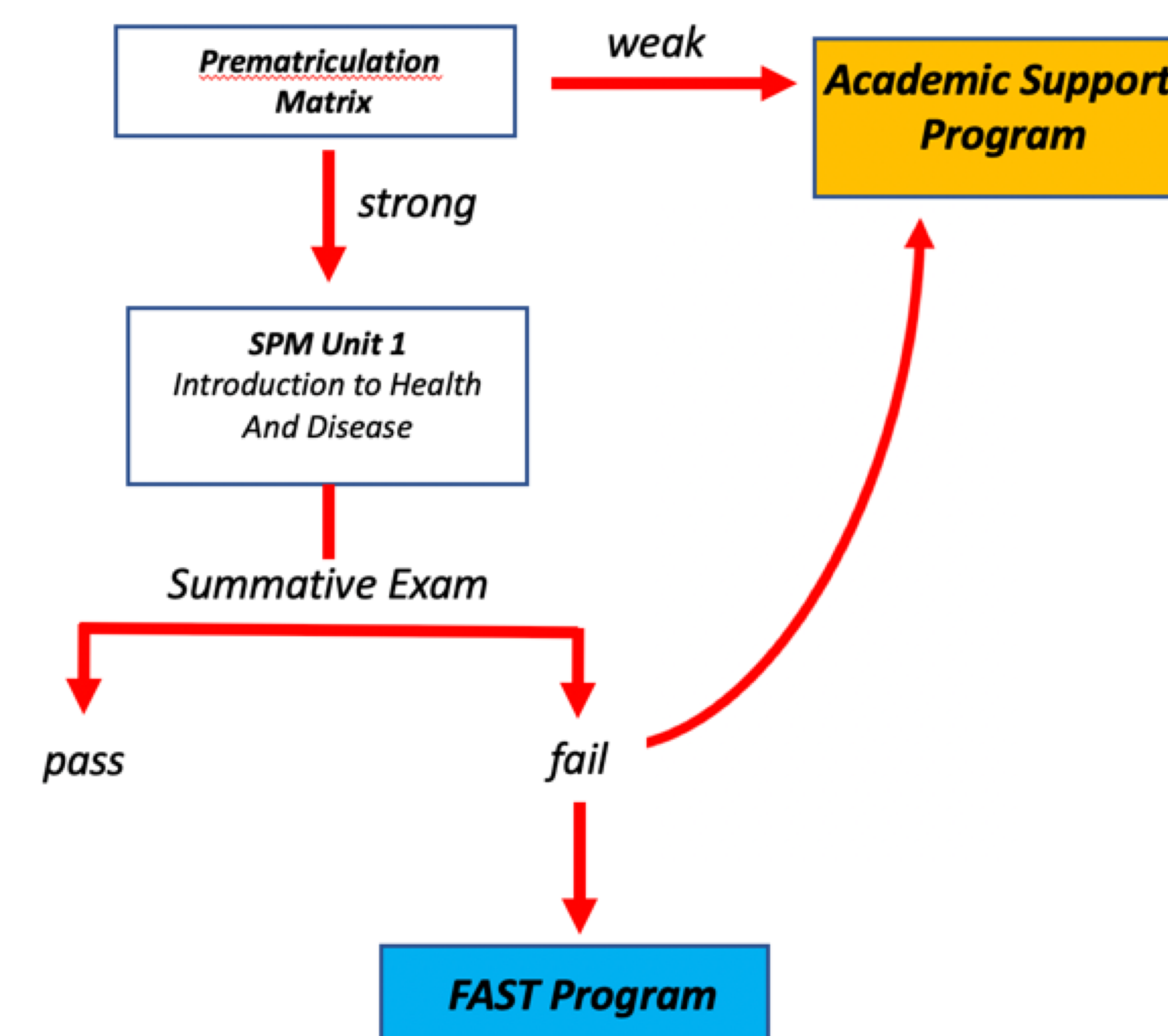
FAST Program sessions are designed to review material within an SPM unit from the previous curriculum week. Students are sent a schedule / invite and are asked to RSVP so that sessions can be designed with 3 students per faculty tutor. This group size is considered optimal for metacognition and for promoting self-regulated learning<sup>4,5</sup>. Students are asked to reflect in advance on their strengths and weaknesses with the material and to prepare several questions to be addressed in the FAST session. The session dynamic is focused on student engagement, sharing how each student thinks about concepts or problems and identifying any flaws.

## Feedback from students on their experience with the FAST Program

### Overall, please provide a few comments on your FAST Program experience.

- I loved the FAST program! I felt that the small group sessions with professors really highlighted areas of weakness in my approach and let me review material in great detail.
- I really enjoyed being able to discuss not only SPM material with the FAST Program faculty, but also any other tips and advice. It was really helpful to be able to get instruction through one on one interaction.
- I think that FAST is an excellent opportunity to address questions to your professors when you might not feel comfortable asking them in class. It is also an opportunity to take a one on one approach to learning which is very helpful when you might have specific topics that you want to touch on.
- I wish I would have done the FAST Program for my first semester. Felt my voice was heard every time and I no longer had to wait till the end of the lecture to ask my questions.
- This was a fabulous program! It really helped motivate me and the small group setting with the professors was just what I needed
- I loved to review the formative questions with my professors! That was very helpful!!!
- I found this program to be incredibly helpful. If I could participate for every unit, I would.
- Honestly the FAST program made me feel connected to the faculty for the first time.
- What do you feel worked well in the FAST Program?**
- Really appreciated the small groups and rotations between professors, it allowed us to switch between different perspectives and areas of expertise.
- I liked the one on one time with professors. It helped other students being there too because they may ask questions you didn't think about at first.
- The organization of the program and the availability of the school's faculty to get in touch with us was always on point. I liked that we would have the sessions with professors that covered topics seen in class
- The small group setting with faculty was really a great fit for me.

## Implementing intervention strategies



Based on the pre-matriculation matrix an incoming first-year student may be directly referred to the Academic Support Program for advising. Students progress through 3 discrete Units of the integrated Scientific Principles of Medicine course in the fall semester. Each SPM Unit has associated weekly formative exams and an end-of-unit summative exam. If a student fails the first summative exam, they are referred to the Academic Support Program (if not already engaged); further, they are invited to participate in the FAST Program. Once a student is participating in FAST they will have the opportunity to continue for the remainder of the year, depending on capacity of the program – priority will be given to students failing subsequent summative exams.

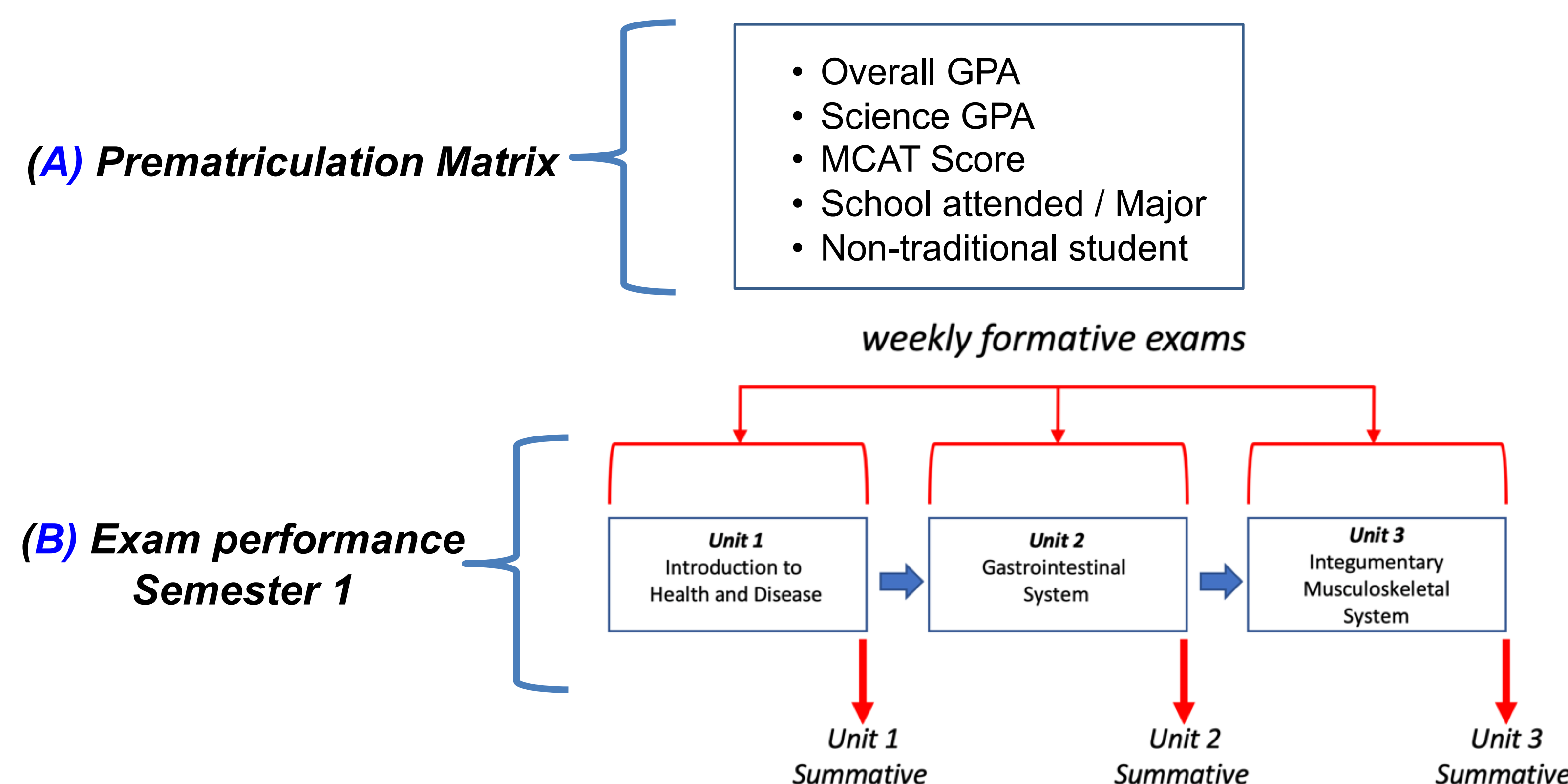
## Conclusions

By refining this unique multipronged approach at student academic support we hope to offer students both timely and efficient interventions that can maximize their chances for success. By continual promotion of a robust learning community, we hope to create an optimal environment for both academic achievement and personal wellness.

## References

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## Data informing intervention strategies for first-year students



### Criteria used to identify appropriate intervention strategies for first-year students.

**(A)** A weighted pre-matriculation matrix is assembled in the Office of Admissions to provide identification of target students for the Academic Support Program to reach out to and assist<sup>2</sup>. **(B)** Once the curriculum has commenced, performance on a series of weekly formative scores is monitored, culminating in pass / fail summative exams. The fall semester includes 3 units for the primary, integrated course, the Scientific Principles of Medicine (SPM).