

Informing problem solving with multiple perspectives.

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College Perspective

- Problem solving is contextual
- Entails applying skills to unusual situations or variations of situations that are new
- Methods are informed by the trade or skill-based area that is being studied.
- Sometimes adjusting to the context is a problem in its own right

Discussion

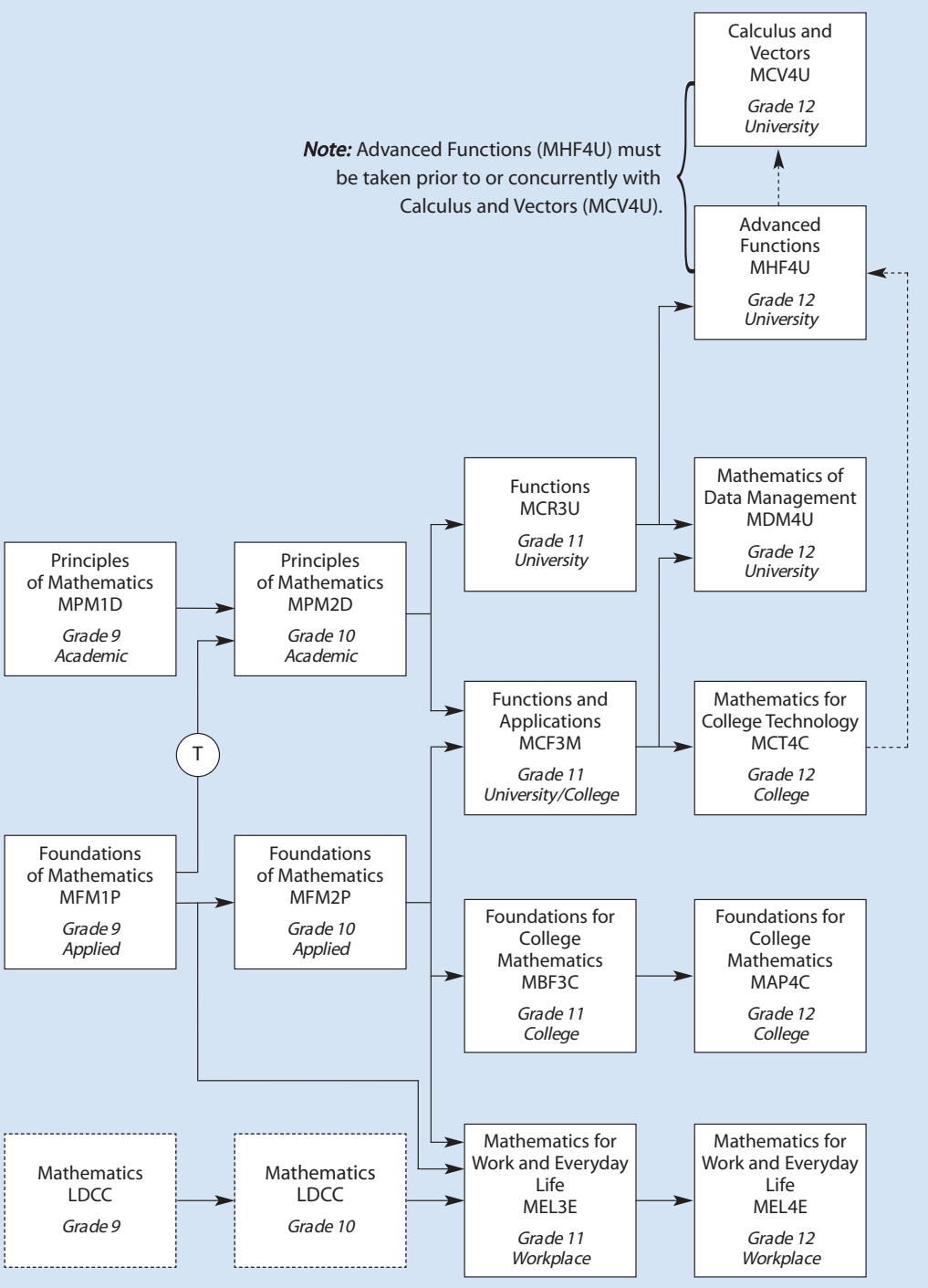
- Thoughts on college math problem solving?
 - What defines it?
 - How much does it differ within college programs?
 - What ‘false perceptions’ exist about it?

High School Math

- Broad based but with several pathways
 - College stream – most college students
 - College-technology – second most college students
 - University stream
 - Data Management
- Each has its own unique features

Discussion

- Thoughts on high school math problem solving?
 - How well does high school set up for college engagement?
 - Which college programs are set up well?
 - Which programs suffer?



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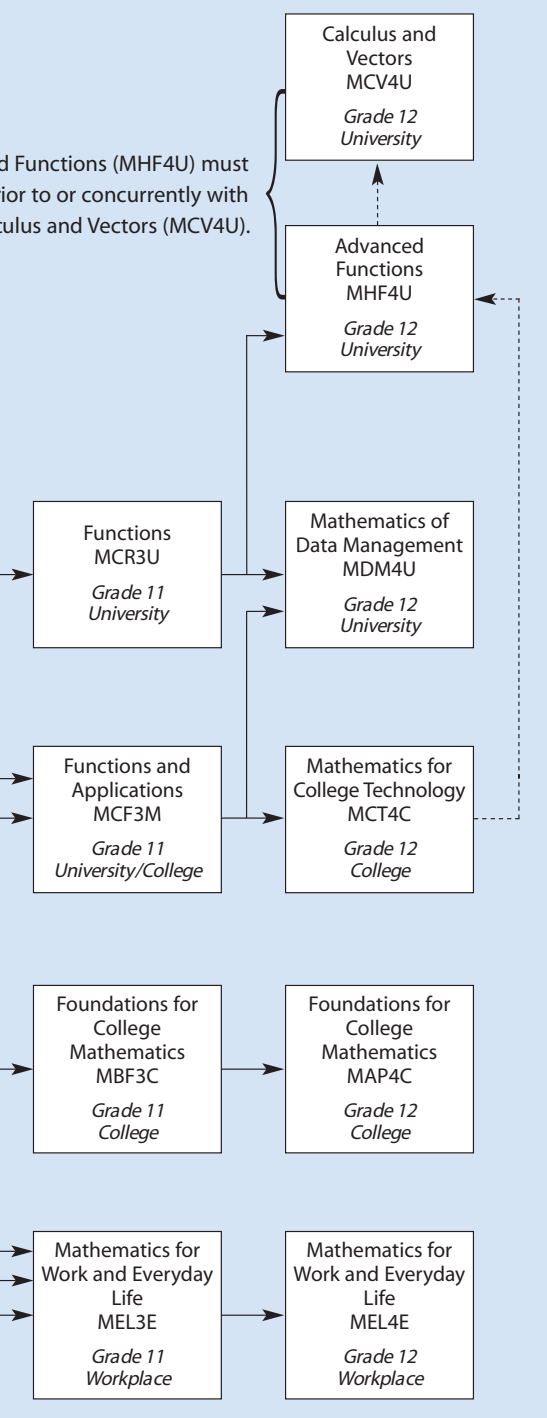
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Based on the
College
Student
Achievement
Project

Advanced Functions (MHF4U) must be completed prior to or concurrently with Calculus and Vectors (MCV4U).



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More abstract
More rigorous
More content



More concrete
More context
More scaffolding

Discussion

- High school math pathways?
 - How does the high school pathway affect college engagement?
 - Is context and scaffold usage in high schools appropriate?
 - Would students fair better in college if high school was more abstract/concrete?
 - Rigorous and content heavy / contextual and scaffolded?

Teacher Training Issues

- Curriculum changes 1999/2003 (2007)
- Implementation of problem based learning is difficult
- How to create context problems
 - High school teachers do not use contexts that match with college teacher contexts
- How to inform candidates about opportunities within college environments?

Discussion

- Could there be a meaningful discussion between colleges and pre-service programs (senior math candidates) to aide them in better preparing college bound students?
- What might that look like?

College Teacher Challenges

- Stability is necessary to invest in developing a course fully
- Course outlines could offer much more to part-time instructors
- How to engage high school teachers in discussion about math problems based in suitable contexts.

Discussion

- In terms of engaging high school teachers, what can be done to better inform them about how to bridge the school – college gap?
- What is one concrete action you can take?
- If you could advise an OCMA-OAME committee working on this, what would you suggest?

Thank You

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