Chantilly Academy
A High School Application of *Engineering Math*

National Engineering Mathematics Consortium

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Joan Ozdogan, Grant Program Coordinator
jeozdogan@fcps.edu
Greg Reiter, Instructor
gregory.reiter@fcps.edu

Overview

- High School vs College
- Enrollment
- Lessons Learned
- Next Year

High School vs College

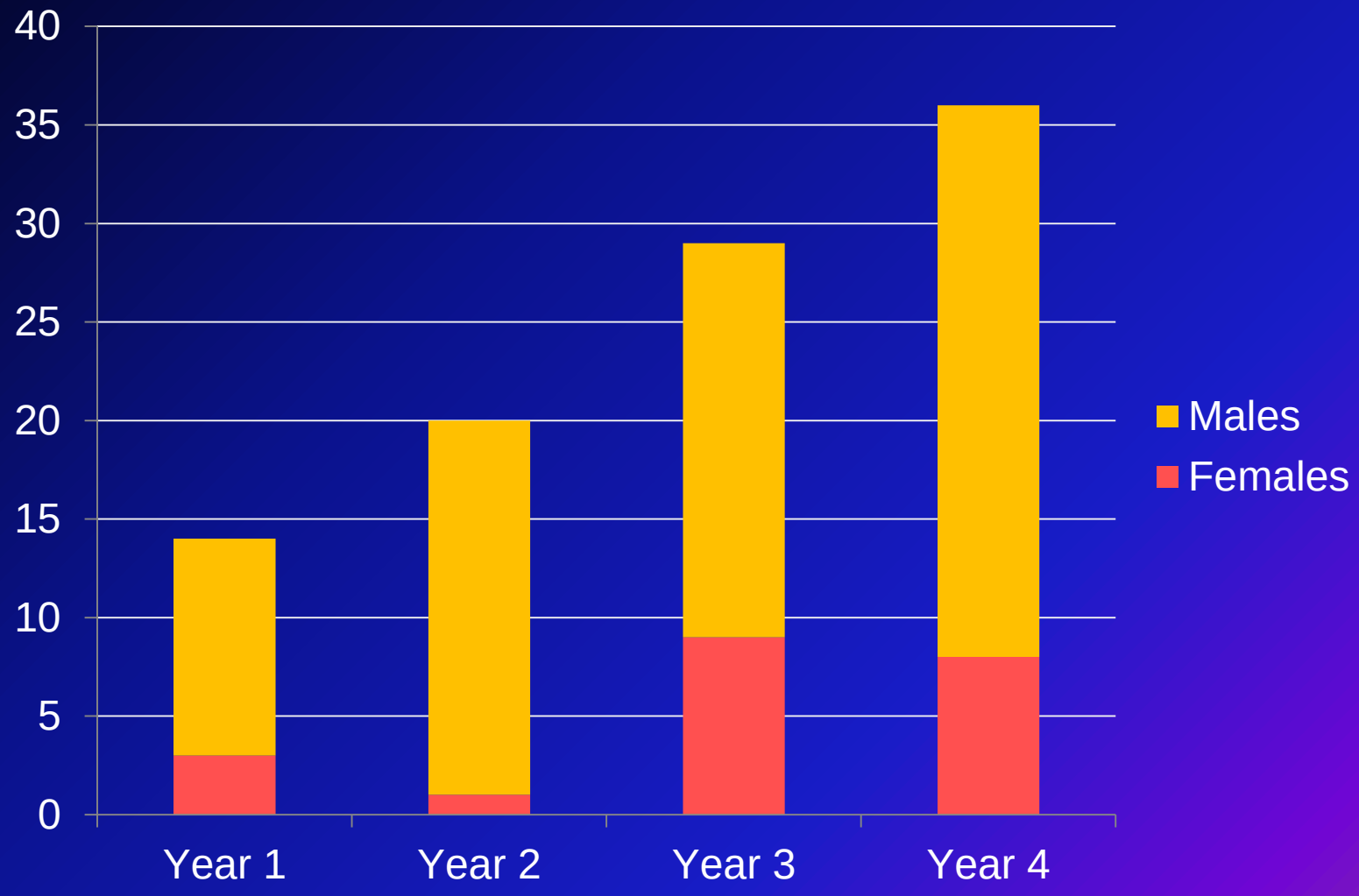
End of program vs beginning of program

Motivational / Informative vs Proficiency

36 weeks vs 10 weeks

Psychology of high school senior

Enrollment History / Projection



Lessons Learned

Year 1: Course can work in our school

- Students, instructor, MATLAB, labs

Need work on varied math background

Room to add content in 36 weeks (LaPlace)

Lessons Learned

Year 1: Course can work in our school
- Students, instructor, MATLAB, labs

Need work on varied math background

Room to add content in 36 weeks (LaPlace)

Year 2: Tried self pacing: didn't work

Need to increase testing rigor

Added matrix / vector problems: too long

Need to shorten early units to keep interest up

Added beam deflection: students liked it

Lessons Learned

Year 3: Thinned out early units

Need to add shear/moment to algebra

Added phasors at end of sinusoids

Formalized LaPlace and Beams

Used damping scenarios for 2nd order DE's

Increased testing rigor

Modified self pacing - set test dates.

Need to increase labs in 2nd half

Need to work on students setting up problems

Year 4 Plan

Sep	Oct	Nov	Dec	Jan
Matlab, Algebra	Trig, Vectors	Matrices, Complex	Sinusoids, Derivatives	Integrals
Feb	**Mar**	**Apr**	**May**	**Jun**
Integrals, Beams (3 quizzes), 1st Order DE, 2nd Order DE, LaPlace				

1st Order DE | 2nd Order DE | LaPlace

- Beam Deflection
- Transfer Functions
- AC RLC Circuits
- Comp Sci – loops etc

Change order towards end

Closed book testing for early blocks