

Math Course Overview

June 27, 2006



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- 2 Typical Paths Through Calculus
- 3 Advanced Placement Credit
 - Credit from the AP Exam
 - Retroactive Credit
- 4 The Analysis Sequence
- 5 Project-based Learning Community
- 6 Choosing the Right Course



MA 1021-1024 Topics

- MA 1020/1021 - Derivatives and Applications of the Derivative



MA 1021-1024 Topics

- MA 1020/1021 - Derivatives and Applications of the Derivative
- MA 1022 - Integrals and Applications of the Integral



MA 1021-1024 Topics

- MA 1020/1021 - Derivatives and Applications of the Derivative
- MA 1022 - Integrals and Applications of the Integral
- MA 1023 - Infinite Series, Parametric Curves, Vectors



MA 1021-1024 Topics

- MA 1020/1021 - Derivatives and Applications of the Derivative
- MA 1022 - Integrals and Applications of the Integral
- MA 1023 - Infinite Series, Parametric Curves, Vectors
- MA 1024 - Partial Derivatives and Multiple Integrals



Typical Paths through Calculus

- 1 With Review
MA 1020 (A and B '06), MA 1022 (C '07), MA 1023 (D '07), MA 1024 (A '07)



Typical Paths through Calculus

- 1 With Review
- 2 Main Line
MA 1021 (A '06), MA 1022 (B '06), MA 1023 (C '07), MA 1024 (D '07)



Typical Paths through Calculus

- 1 With Review
- 2 Main Line
- 3 Advanced Placement
MA 1022 (A '06), MA 1023 (B '06), MA 1024 (C '07)
or



Typical Paths through Calculus

① With Review

② Main Line

③ Advanced Placement

MA 1022 (A '06), MA 1023 (B '06), MA 1024 (C '07)

or

MA 1023 (A '06), MA 1024 (B '06)

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Typical Paths through Calculus

① With Review

② Main Line

③ Advanced Placement

MA 1022 (A '06), MA 1023 (B '06), MA 1024 (C '07)

or

MA 1023 (A '06), MA 1024 (B '06)

or

MA 1024 (A '06)



Advanced Placement Credit

- Calculus AP exam



Advanced Placement Credit

- Calculus AP exam
- Retroactive Credit



Advanced Placement Credit

- Calculus AP exam
- Retroactive Credit
- College Transfer Credit



AP Exam Credit

- Credit for MA 1021 and MA 1022 for a score of 4 or 5 on the Calculus AB exam



AP Exam Credit

- Credit for MA 1021 and MA 1022 for a score of 4 or 5 on the Calculus AB exam
- Credit for MA 1021, MA 1022, and MA 1023 for a score of 4 or 5 on the Calculus BC exam



Retroactive Credit

- 1 Pass MA 1022 in A '06, pass MA 1023 in B'06, get credit for MA 1021



Retroactive Credit

- 1 Pass MA 1022 in A '06, pass MA 1023 in B'06, get credit for MA 1021
- 2 Pass MA 1023 in A '06, pass MA 1024 in B'06, get credit for MA 1021 and MA 1022



The Analysis Sequence

MA 1031 in A '06, MA 1032 in B '06, MA 1033 in C '07, and MA 1034 in D '07

- Rigorous treatment of calculus - theorems and proofs
- Enrollment restricted to 36 students
- Covers the same material as MA 1021-1024, but there is not a one-to-one correspondence between courses
- Especially appropriate for Math majors and students who like math and want to understand the theory behind calculus



Project-based Learning Community

- MA 1021, PH 1110 in A '06, MA 1022, PH 1120 in B '06 plus a Humanities course each term



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- Project-based learning
- Limited availability - contact Dale Snyder directly



Choosing the Right Course - WPI Web Overview

- 1 Information via Blueprints on the web



Choosing the Right Course - WPI Web Overview

- 1 Information via Blueprints on the web
- 2 Calculus Placement Exams on-line



Choosing the Right Course - WPI Web Overview

- ① Information via Blueprints on the web
- ② Calculus Placement Exams on-line
 - Calculus Math Placement Exam
 - required if you want to start in MA 1021
 - pre-calculus topics
 - only to help you decide if you need MA 1020 or not



Choosing the Right Course - WPI Web Overview

- 1 Information via Blueprints on the web
- 2 Calculus Placement Exams on-line
 - Calculus Math Placement Exam
 - required if you want to start in MA 1021
 - pre-calculus topics
 - only to help you decide if you need MA 1020 or not
 - Calculus 2 Placement Exam
 - MA 1021 topics
 - only to help you decide if skipping MA 1021 is wise



Choosing the Right Course - Overall Considerations

- 1 Choose a course based on HS courses, AP credit, placement exams



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- 3 The “I’ve had this” trap



Choosing the Right Course - Overall Considerations

- 1 Choose a course based on HS courses, AP credit, placement exams
- 2 HS Calculus course but no AP credit does NOT mean you have to start in MA 1021
- 3 The “I’ve had this” trap
- 4 Can still change at NSO and after



Factors in the MA 1020-MA 1021 decision

- Score on the Calculus Math Placement Exam



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- Score on the Calculus Math Placement Exam
- Adapting to 7 week terms/college life



Factors in the MA 1020-MA 1021 decision

- Score on the Calculus Math Placement Exam
- Adapting to 7 week terms/college life
- Need for review of precalculus topics



Factors in the Calculus-Analysis decision

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- Students with AP credit for MA 1021, 1022, and 1023 should probably take MA 1024 in A term



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 - Special sections of MA 2051 in B '06 and MA 2071 in C '07



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 - Special sections of MA 2051 in B '06 and MA 2071 in C '07
 - Small courses - some extra material

