

Currently and Soon-to-be Available TRIUMPHS PSPs

Descriptions of all PSPs available at: [http://webpages.ursinus.edu/nscoville/\(Numbered\)%20IUSE%20Project%20Descriptions.pdf](http://webpages.ursinus.edu/nscoville/(Numbered)%20IUSE%20Project%20Descriptions.pdf)

Complete versions of most of the following are available at: <http://webpages.ursinus.edu/nscoville/projects.html>

The *Notes to Instructors* section at the end of each PSP includes further information about its goals and design.

To obtain a preliminary copy of any PSP not yet posted on the TRIUMPHS website (listed in italics below), please contact the author.

** indicates a PSP that is suitable for use in History of Mathematics Courses and/or Capstone Courses for Pre-service Secondary Teachers.*

Full-length PSPs (numbers correlate with posted PSP Descriptions)

	Intended Course(s)	Author
F 01. A Genetic Context for Understanding the Trigonometric Functions	Pre-calculus, Trigonometry*	Danny Otero
<i>F 02. Determining the Determinant</i>	<i>Linear Algebra</i>	<i>Danny Otero</i>
F 03. Solving a System of Linear Equations Using Elimination	Linear Algebra*	Mary Flag
F 04. Investigating Difference Equations	Discrete Mathematics	Dave Ruch
F 05. Quantifying Certainty: the p-value	Statistics	Dominic Klyve
F 06. Pythagorean Theorem and Exigency of Parallel Postulate	Geometry*	Jerry Lodder
F 07. Failure of the Parallel Postulate	Geometry*	Jerry Lodder
F 08. Dedekind and the Creation of Ideals	Abstract Algebra	Janet Barnett
F 09. Primes, Divisibility & Factoring	Number Theory*	Dominic Klyve
F 10. The Pell Equation in Indian Mathematics	Number Theory*	Toke Knudsen & Keith Jones
F 13. Bolzano's Definition of Continuity, his Bounded Set Theorem, and an Application to Continuous Functions	Introductory Analysis	Dave Ruch
F 14. Rigorous Debates over Debatable Rigor: Monster Functions in Intro. Analysis	Introductory Analysis	Janet Barnett
<i>F 16. Nearness without distance— three approaches</i>	<i>Topology</i>	<i>Nick Scoville</i>
F 18. Construction of Figurate Numbers	General Education*	Jerry Lodder
F 19. Pascal's Triangle and Mathematical Induction	General Education*	Jerry Lodder
F 20. Investigations Into d'Alembert's Definition of Limit	Introductory Analysis	Dave Ruch
F 21. An Introduction to a Rigorous Definition of Derivative	Introductory Analysis	Dave Ruch
F 22. Investigations Into Bolzano's Formulation of the Least Upper Bound Property	Introductory Analysis	Dave Ruch
F 23. The Mean Value Theorem	Introductory Analysis	Dave Ruch
F 24. Abel and Cauchy on a Rigorous Approach to Infinite Series	Introductory Analysis	Dave Ruch
F 25. The Definite Integrals of Cauchy and Riemann	Introductory Analysis	Dave Ruch
F 26. Gaussian Integers and Dedekind Ideals: A Number Theory Project	Number Theory*	Janet Barnett
<i>F 27. Developing an Understanding of the Quotient Group Concept</i>	<i>Abstract Algebra</i>	<i>Janet Barnett</i>
F 28. Roots of Early Group Theory in the Works of Lagrange	Abstract Algebra*	Janet Barnett

Mini-PSPs (numbers correlate with posted PSP Descriptions)

	Intended Course(s)	Author
M 01. Babylonian Numeration	Gen. Ed / Elem. Ed. Courses*	Dominic Klyve
M 03. Derivatives of Trigonometric Functions	Calculus I*	Dominic Klyve
<i>M 04. Beyond Riemann Sums</i>	<i>Calculus I*</i>	<i>Dominic Klyve</i>
M 09. How to Calculate π , Part 4: Inverse Tangents	Calculus 2*	Dominic Klyve
<i>M 13. Integration via trigonometric and other substitutions</i>	<i>Calculus 2</i>	<i>Janet Barnett</i>
<i>M 14. Polar coordinates and arc length</i>	<i>Calculus 2</i>	<i>Janet Barnett</i>
M 15. Gaussian Guesswork: Sequences & the Arithmetic-Geometric Mean	Calculus 2	Janet Barnett
M 17. Why be so critical? Origins of Analysis in 19 th Century Mathematics	Introductory Analysis*	Janet Barnett
M 18. Topology from Analysis: Making the Connection	Topology / Introductory Analysis	Nick Scoville
M 19. Connecting Connectedness	Topology	Nick Scoville
M 20. The Cantor Set before Cantor	Topology	Nick Scoville
M 21. A Compact Introduction to a Generalized Extreme Value Theorem	Topology	Nick Scoville
<i>M 22. From sets to metric spaces to topological spaces</i>	<i>Topology</i>	<i>Nick Scoville</i>
M 23. The Closure Operation as the Foundation of Topology	Topology	Nick Scoville
M 24. Euler's Rediscovery of e	Introductory Analysis / Calc. 2	Dave Ruch
M 25. Henri Lebesgue and the Integral Concept	Introductory Analysis	Janet Barnett
M 26. Generating Pythagorean Triples via Gnomons - two versions available	Number Theory/Elem. Ed. Courses*	Janet Barnett