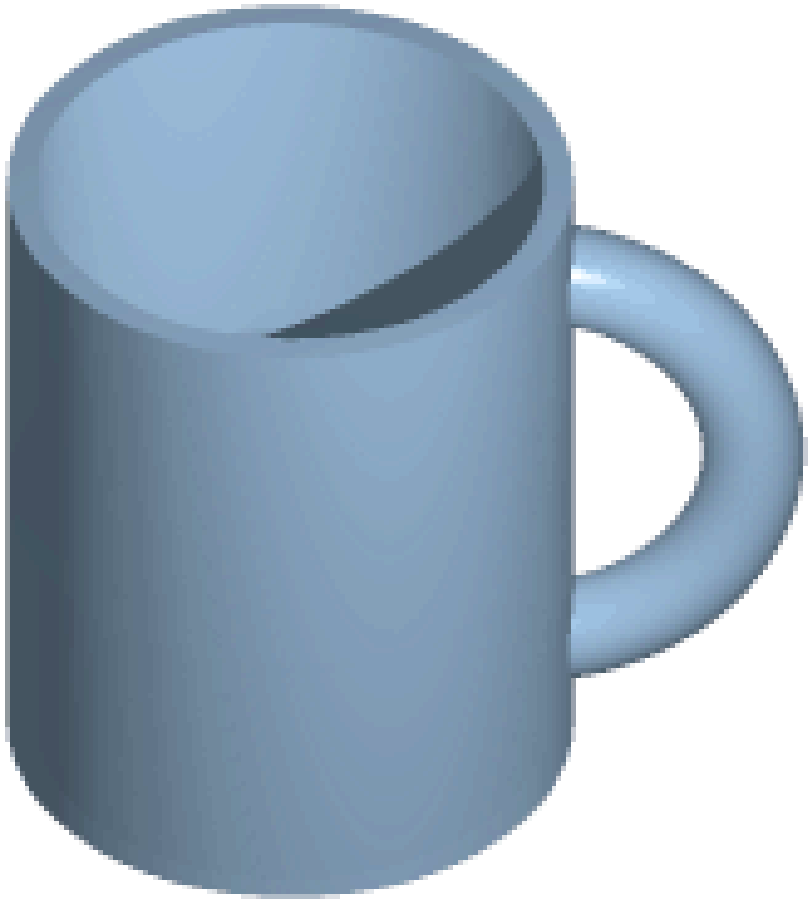
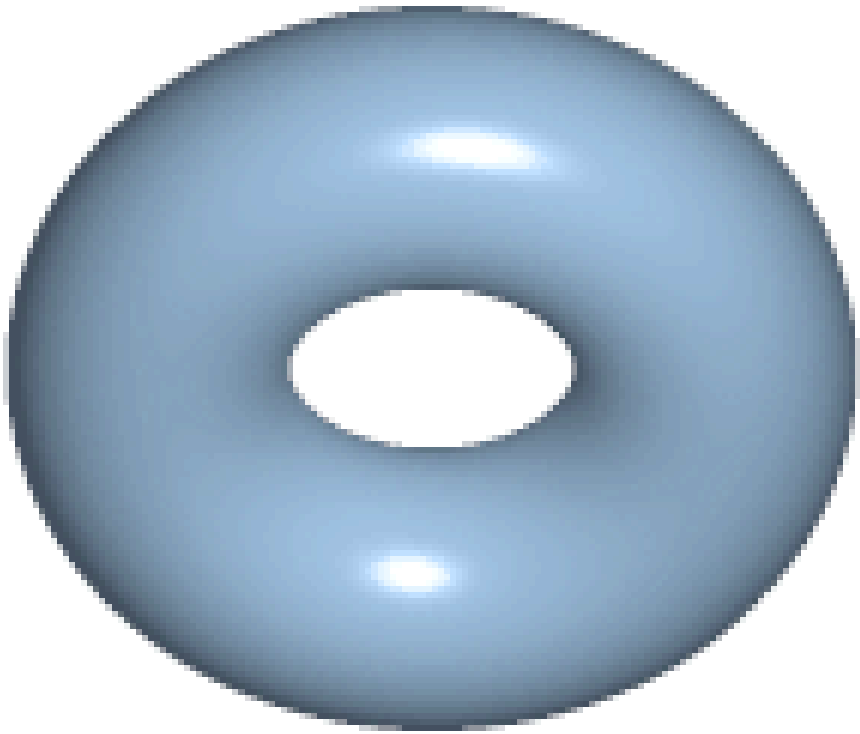
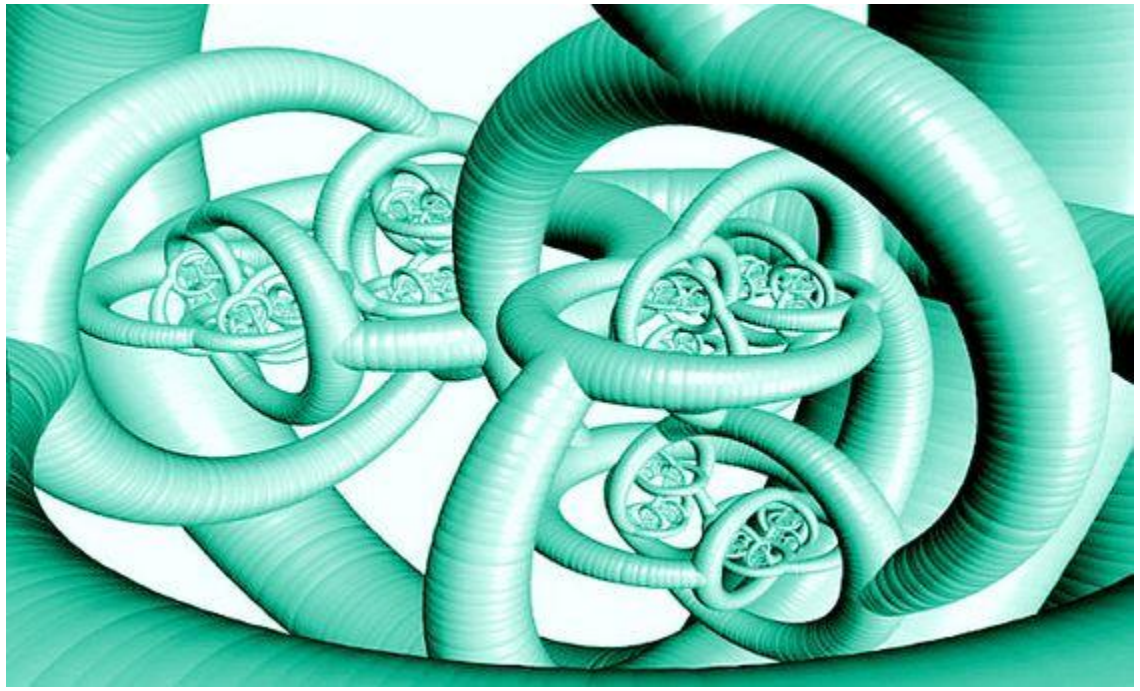
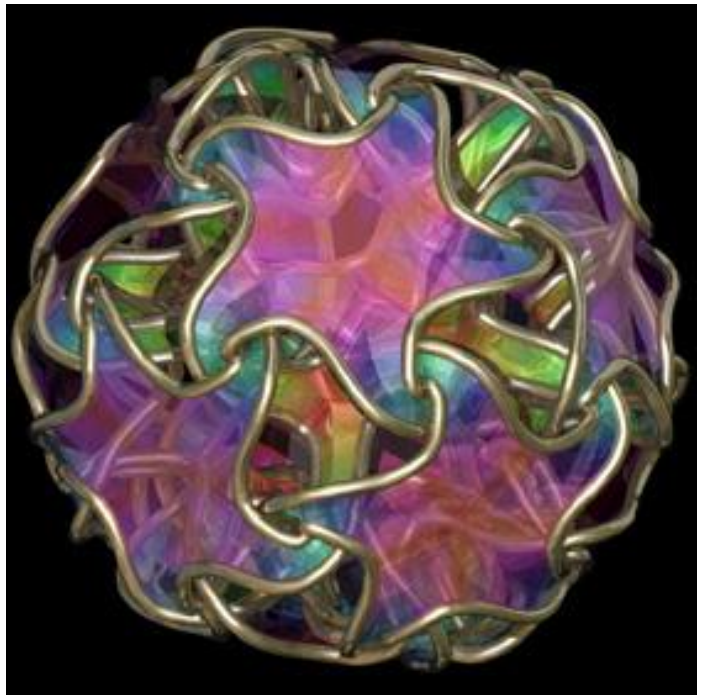
TRIUMPHS

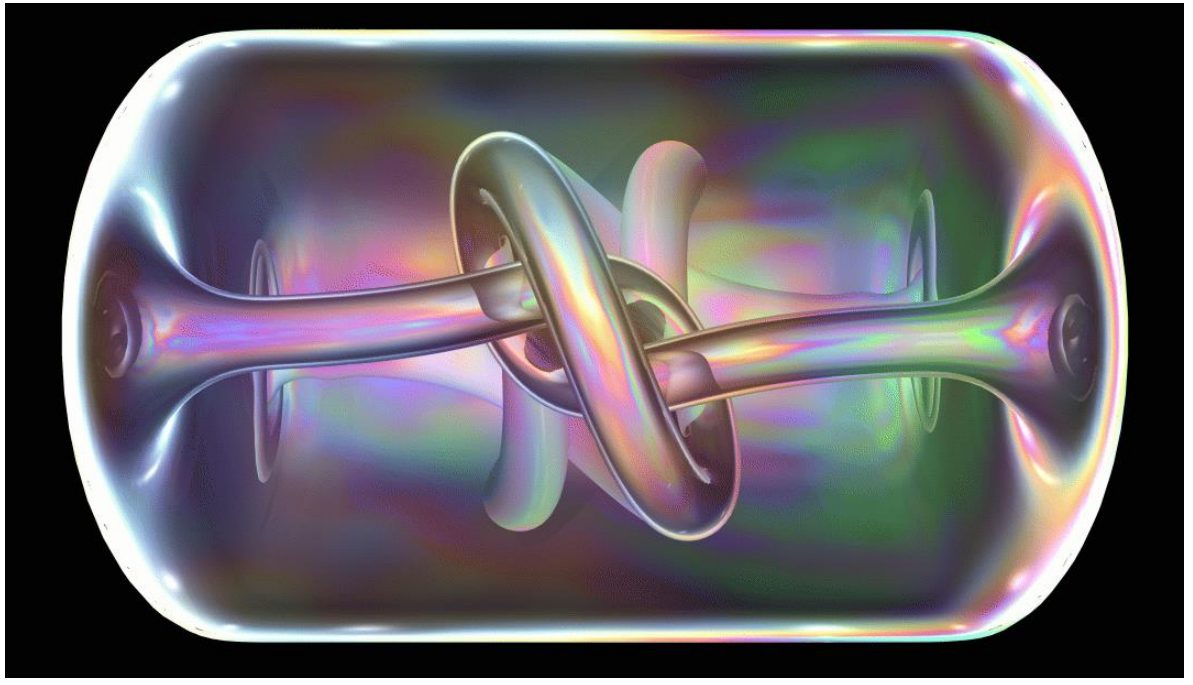
Transforming Instruction in Undergraduate Mathematics via Primary Historical Sources











Definition. A ***topology*** on a set X is a collection $\mathcal{T}$ of subsets of X having the following properties:

(1) $\varnothing$ and X are in $\mathcal{T}$.

(2) The union of the elements of any subcollection of $\mathcal{T}$ is in $\mathcal{T}$.

(3) The intersection of the elements of any finite subcollection of $\mathcal{T}$ is in $\mathcal{T}$.

A set X for which a topology $\mathcal{T}$ has been specified is called a ***topological space***.

- Where does it come from?

- Where does it come from?
- Why THIS definition?

- Where does it come from?
- Why THIS definition?
- Why THESE nuances and subtleties?

- Where does it come from?
- Why THIS definition?
- Why THESE nuances and subtleties?
- Mathematics is less clear and less motivated

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- Design

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- Design
- Write

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- Design
- Write
- Implement

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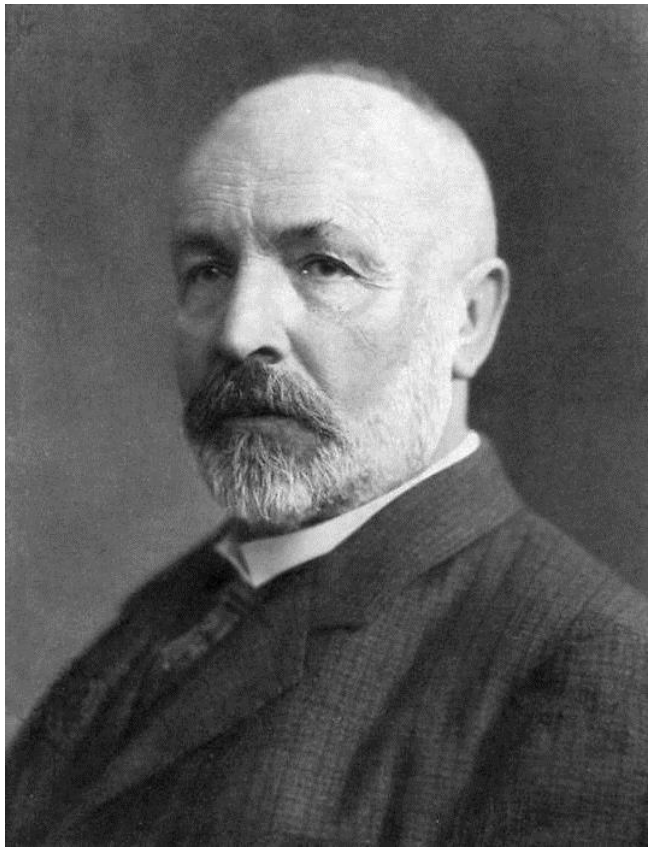
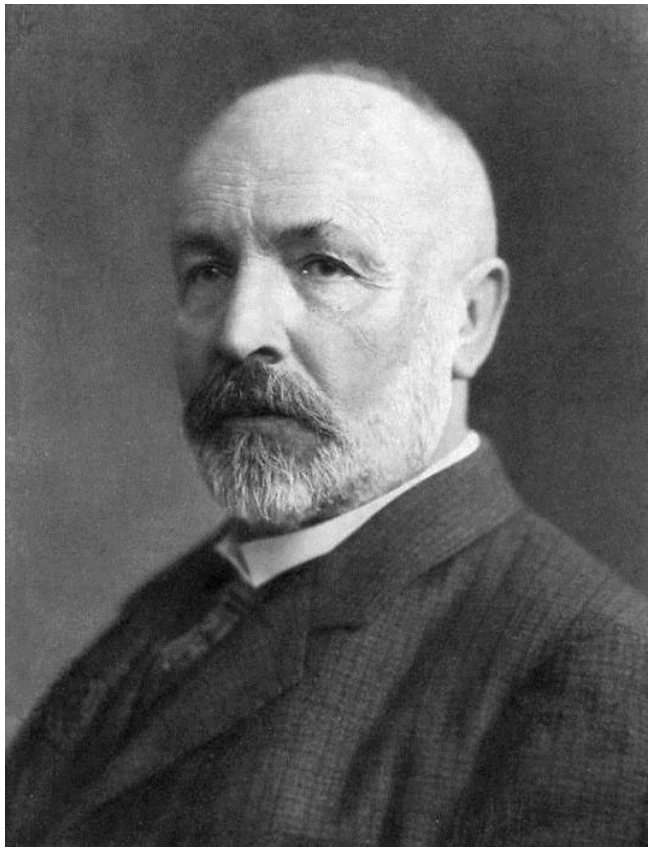
- Design
- Write
- Implement
- Test





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- Guided reading with exercises

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- Guided reading with exercises
- Struggling helps solidify understanding

Learn more at

www.webpages.ursinus.edu/nscoville/TRIUMPHS.html