

# Scientific method

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## A!ENG Research Lab

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# Today's topic

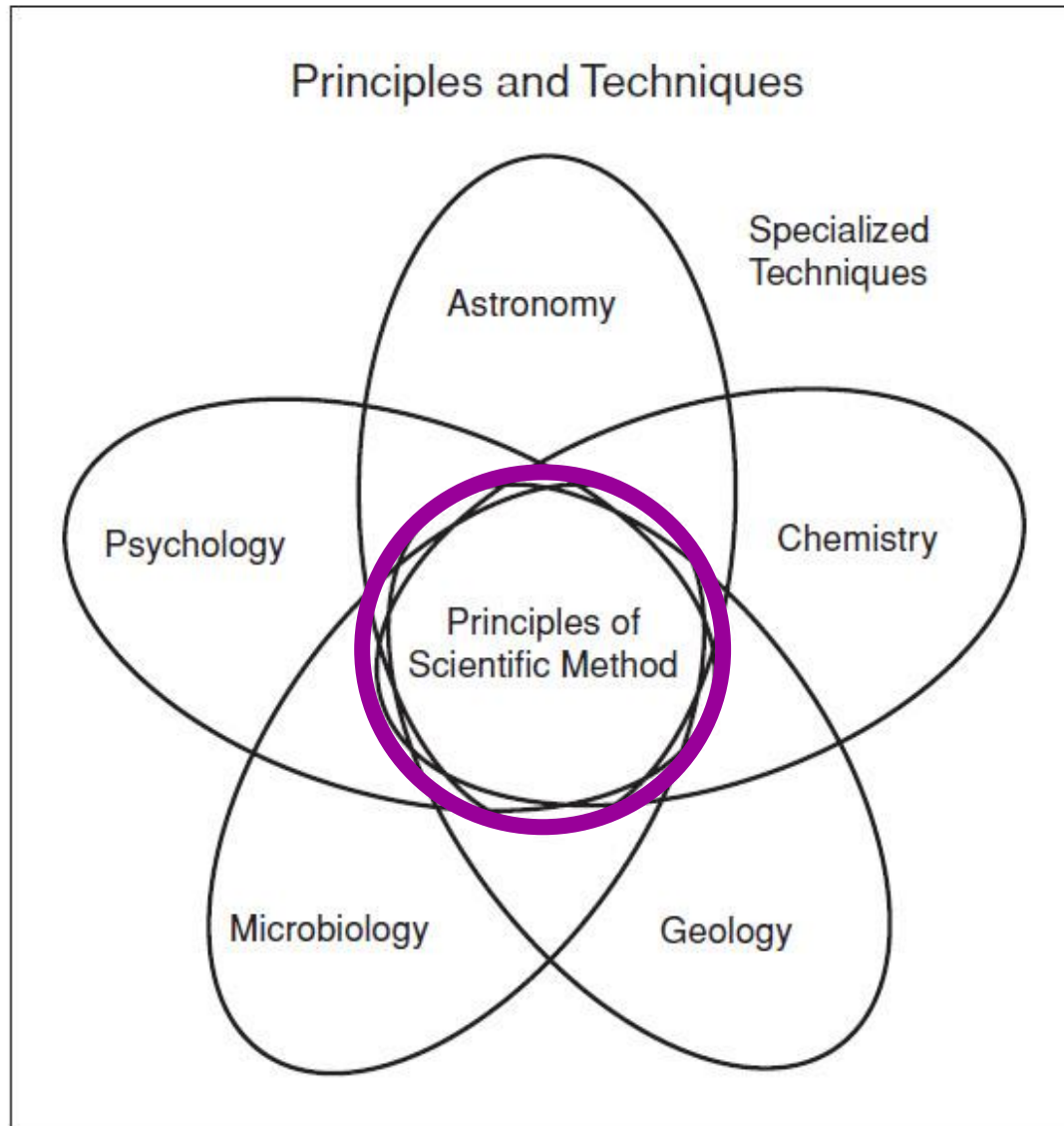


Figure: Gauch (2012)

# Why study the principles of scientific method?

1. You will become a Doctor of **Science** (Tech.)
2. It will improve your comprehension and make you more systematic and productive
3. It will help you to create more useful knowledge and solutions
4. It increases adaptivity and enables creativity

# Today's themes

## **Book: Scientific Method in Brief (Gauch 2012)**

- **Four bold claims**
- **Science's contested rationality**
- **Science's presuppositions**
- **Science's power and limits**
- **Logic and reasoning**
- **Parsimony and efficiency**
- **Ethics and responsibility**

**This is only a brief introduction!**

# Teaching method: Inverted classroom

## Assignment: Teach your topic to others

- Make poster of your topic
- Provide a brief background to your topic (others haven't read it!)
- Focus on teaching the key points
- Presentation time 12 min. including discussion

## Schedule:

12.30-13.30	60 min.	Poster making
13.30-13.45	15 min.	Break
<b>13.45-14.40</b>	<b>55 min.</b>	<b>4 presentations (groups 1-4)</b>
14.40-14.50	10 min.	Break
<b>14.50-15.30</b>	<b>40 min</b>	<b>3 presentations (groups 5-7)</b>
15.30-15.45	15 min.	Discussion

# Discussion

- **First impressions and thoughts on today's topic(s)?**
- **What did you learn today?**

**“Science without epistemology is  
– in so far as it is thinkable at all –  
primitive and muddled.”**

**– Albert Einstein**