

CO 480 Week 8 Learning Goals

By the end of this week, students should be able to...

- Describe Russia in the 1700s and Prussia in the 1700s (I'll be more specific about this later in the objectives).
- Discuss the timeline of the rulers of Russia during the times of Euler.
- Discuss some of the tyrannous reign of Peter the Great. These include his desire for military and academic success, his ability to reform Russia, his ability to relate to the people, his strange hygiene requirements, etc.
- Identify Euler's struggle with his father and his influences for wanting to study mathematics instead of theology.
- Identify some of Euler's accolades (eg. Prize from the French Academy when he was 19/20)
- Compare and contrast the formations of the St. Petersburg Academy and the Royal Academy of Berlin
- Discuss the structure of the St. Petersburg Academy as well as some of the issues both it and the gymnasium had
- Describe how Anna Ivanonva come into power.
- Identify reasons why Euler left St. Petersburg.
- Discuss Basel's Problem and be able to give Euler's heuristic argument.
- Discuss Euler's health issues, specifically his blindness and what effect it had on his life.
- Identify the effect that freedom of speech had on Euler upon his arrival in Berlin
- State and prove Euler's Criterion
- Give an example of a conjecture of Fermat or Euler that was incorrect.
- State and be able to use Euler's Totient Theorem
- Define a multiplicative function. Be able to compute examples of $\phi(n)$.
- Give reasons as to why Euler left Berlin.