Timeline of Medical Advances

- 2700 BCE – Imhotep; Egyptian doctor to pharaohs
- 2000 BCE - Counting system devised by the Sumerians. Based on the number 12. This explains why the day is divided into 12 hour units and an hour has sixty minutes
- 1200 BCE - Aesclepius – Greek God of Medicine
- 460 – 370 BCE – Hippocrates advocates examination of urine to diagnose disease
  - Sets guidelines for those practicing medicine – “Hippocratic Oath”
- 157 CE - Galen (129 -217 CE) – Roman physician; Surgeon to the Gladiators
- 900 CE - Isaac Judaeus — devised guidelines for urine as diagnostic aid
- 10th century - The School of Salerno
- 1179 - Lateran Council – Segregation of lepers
- 1267: Roger Bacon experiments with optics leading to possible production of first microscope
- c .1300 - Uroscopy became widespread
- 14th century - Plague - the Black Death
- 1439 - Gutenberg - Printing press
- c. 1500 - Physicians begin using urine color charts for visual urinalysis
- 1526 - Paracelsus (1493-1541) - contributions to toxicology and diagnosis of illness
- 1541 – Andreas Vesalius (1515-1564) - Founder of human anatomy; discredited Galen
- 1590 - Hans & Zacharias Janssen (father and son) invent single lens microscope
- 1592 - Galileo Galilei invents thermometer
  - 1609 - Galileo Galilei, Lincean Academy
- 1628 - William Harvey – described the circulation of blood
  - Harvey was a student at the University of Padua while Galileo was a tutor there
  - Harvey’s tutor, Fabrizo d’Acquapendente (aka Hieronymus Fabricius), was the first person to describe the valves in the veins and is consider the “Father of Embryology”
- 1631 - Richard Lower (1631–1691) - direct transfusion of blood from one animal to another
- 1620 - Cornelius Drebbel - Compound microscope
- 1661 - Marcello Malpighi – Viewed capillaries and completed defining the circulatory system; published anatomy texts
- 1665 - Robert Hooke publishes Micrographia
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- 1681 - Antony van Leeuwenhoek - simple microscope
- 1684 - Robert Boyle (1627-1691) – published *Memoirs for the Natural History of Human Blood*; devised normal state of blood; Boyle’s law
- 1684 - Anton van Leeuwenhoek publishes the first drawings of bacteria as seen under the microscope.
- 1714 - Gabriel Fahrenheit develops the mercury thermometer and the Fahrenheit temperature scale
- 1715 - Lady Montagu introduces vaccinations into England
- (1739–1774) - William Hewson - formation in the plasma of a substance he called “coagulable lymph,” which is now known as fibrinogen
- 1742 - Celsius & centigrade thermometer
- 1754 - Leopold Auenbrugger introduces percussion of the chest into medical diagnosis
- 1796 - Edward Jenner - Inoculation and vaccination
- 1816 - René Laënnec - Invents the Stethoscope - Art of Auscultation
- 1827 - Richard Bright – publishes *Reports of Medical Cases*
- 1828 - British hospitals are organized into wards
- 1829 - Joseph Jackson (J. J) Lister (1786-1869) - Listerian lenses; develops an achromatic microscope and introduces dark-field microscopy
- 1843 - Microscopy Education, Guy’s Hospital, London
- 1840’s - Analytical Engine, forbearer of modern computer
- 1843 - Gabriel Andral, *Pathological Hematology*; describes anemia as a decrease in red blood cells
- 1847 – The American Medical Association (AMA) founded
- 1850’s - Paper Chromatography developed
- 1858 - Pharmaceutical Industry begins
- 1858 - Rudolf Virchow (1821-1902), *Cellular Pathology*; Father of Modern Pathology
- 1859 - Charles Darwin (1809-1882) - Published *The Origin of Species*.
- 1866 - Gregor Mendel (1822-1884), publishes his study on the inheritance factors of pea plants
- 1867 - Joseph Lister (1827–1912) published methods of antisepsis using carbolic acid, son of J.J. Lister (see 1829)
- 1877 - William Gowers - Hemacytometer
- 1878 - Louis Pasteur (1822-95) Germ Theory
- 1879 - Paul Ehrlich (1854–1915) developed staining methods
• 1881 - Robert Koch (1843-1910) method for obtaining a pure culture & steam sterilization
  o Photomicrography
  o 1884 - Koch’s Postulates
• 1883 - Karl Gustaf de Laval - Centrifuge – for mixing cream
• 1897 - The first commercial clinical laboratory established in England
• 1898 - Sir William Osler (Physician and textbook author) established ward laboratories at Johns Hopkins Hospital, Baltimore, MD.
• 1899 - Bayer AG sells Aspirin (Acetylsalicylic acid)
• 1900 - Karl Landsteiner (1868–1943) - Discovery of the human blood groups
• 1906 - Mikhail Tsvet - Liquid Chromatography
• 1910 - Thomas Morgan – Gene Theory; the basis for heredity
• 1922 - ASCP is founded in St. Louis, MO.
• 1926 - Theodor Svenberg (1884 - 1971); applied centrifuge to medical research
• 1928 - Sir Alexander Fleming (1881–1955) accidental discovery of penicillin
• 1929 - ASCP establishes its Board of Registry for certifying medical technologists
• 1931 – Ernst Ruska & Max Knoll construct the first electron microscope
• 1943 – Colossus, early form of computer used to break codes
• 1947 - “Chargaff’s Rules” – predicted nucleotide pairing of DNA
• 1947 - American Association of Blood Banks is founded
• 1948 - American Association of Clinical Chemistry is founded
• 1952 – Jonas Salk develops polio vaccine
• 1953 – James Watson & Francis Crick; Rosalind Franklin & Maurice Wilkinson – contribute to describing the structure of DNA
• 1960’s -Laboratory use of computer technology
• 1977 - Fred Sanger developed the chain termination (dideoxy) method for sequencing DNA
• 1985 - Kary Mullis – polymerase chain reaction (PCR)
• 1989 - Alec Jeffreys coined the term DNA fingerprinting, used DNA polymorphisms for identification
• 2003 - Human Genome Project completed
• 2015 – MLSC 3052 Special Topics is offered at the University of Cincinnati; many great future contributions to patient health & scientific discovery will be achieved by those enrolled in this course......