

## MATH 117 History of Statistics

The concepts, graphs, and methods of analysis that you will explore throughout this course were developed by a variety of individuals whose main work/study was in disciplines other than mathematics such as biology, chemistry, engineering, genetics, nursing, and psychology as well as a minister and the author of books with which you may be familiar. This is your opportunity to explore the development of statistical concepts and methods as you research the life, times, and work of a woman or man who made significant contributions to the development of the discipline of statistics.

You will present the results of your research using a MS PowerPoint slide presentation; your MS PowerPoint slide presentation must be appropriate for use as part of a ten to fifteen minute (oral) presentation and must include graphs/diagrams as well as appropriate *footnotes* and a *complete* bibliography. You will use the MS PowerPoint slide presentation that you create as you give an *online* presentation of your research; the online presentation will be given on the Blackboard course site and must include both the MS PowerPoint slide presentation and a four-page (minimum, not including footnotes and bibliography; using *at most* 11-point Arial or 12-point Times New Roman) summary of the life, times and work of your statistician. This assignment has three (3) main components, the MS PowerPoint presentation slides file, the four-page (minimum, not including footnotes and bibliography; using *at most* 11-point Arial or 12-point Times New Roman) paper to be used in your online presentation, and the online discussion/comparison of the statisticians.

Please carefully read all instructions since your grade will depend upon your including all of the stated components; you must turn in the MS PowerPoint file for the online presentation by the assignment due date; again, you will use the MS PowerPoint presentation slides that you created when you give your online presentation.

For the bibliography slide(s), you are expected to use correct bibliographic format (Chicago Style, not MLA, APA, or any other reference style) for all references including any references found on the WWW; an active hyperlink to an online source is NOT an appropriate reference. Please note that a "Works Cited" was not requested: a works cited is NOT the same as a bibliography. You will turn in the MS PowerPoint file by email (the subject line must be *MATH 117 ONLINE Statistics: History MS PowerPoint File*). The file in which you save your MS PowerPoint slides must be named by your last name. If the MS PowerPoint file cannot be opened then you will earn a grade of zero (0) for the MS PowerPoint slide component of this assignment.

- For the online presentation, you must *create* and *use (refer to)* a MS PowerPoint slide presentation of your research information and provide appropriate handouts, if necessary or if desired, and references for all material presented. By the due date, you must provide the instructor with a copy of the MS PowerPoint presentation by email using appropriate subject line as stated above; this email must include your name, the name of the statistician that you studied/researched, and a copy of the presentation handout, if any. Your MS PowerPoint file must include all of the following:
  - at least one slide that provides the complete bibliography, using correct bibliographic format in the style (Chicago Style, not MLA, APA, or any other reference style) stated on the course web site including appropriate active hyperlinks for any online references,
  - a title slide that includes the name of your statistician and your name,
  - at least one picture of your statistician but preferably pictures of your statistician throughout her/his lifetime,
  - the birth and death, if appropriate, *dates* and the birth and death, if applicable, *locations* for your statistician,
  - information about the life of your statistician
    - outside statistics (*any* other work in *any* discipline/area) – these are to demonstrate her/his versatility
    - in statistics/mathematics, in general, including how her/his (initial) area of study lead her/him to make contributions to statistics and how her/his contributions to statistics were beneficial to her/his area of study
    - in the development of the theory, study, and application of the mathematics of 3-space (and/or multivariable mathematics, in general)
    - all major contributions of your statistician to statistics and to any other discipline(s),
    - personal life (family including her/his infancy/childhood/adolescence (parents/siblings) and adulthood (wife/wives or husband(s) and children, if any), "adventures", what (s)he did during her/his lifetime – that is, her/his life outside of work from birth until death – this can include her/his hobbies, information about famous friends and coworkers/collaborators, or other information that can help others to view your statistician as a real person,
    - major accomplishments/contributions and major events in her/his life, including awards and publications,
  - the contributions of your statistician to the development of statistical concepts and/or methods of analysis
    - information/explanation of the statistical concepts and/or methods
    - how this work is used today or has been used in the past – to illustrate the significance of her/his work
  - information about world events (what was going on in the world) during the *lifetime* of your statistician – the world timeline, if you like, of events (please take note of the s on "events" – you must put the lifetime of your statistician in the context of world events (from the birth of your statistician until her/his death or until the present if your statistician is still alive) – the major events worldwide) during her/his lifetime
  - appropriate footnotes for all images and appropriate footnotes for information used/cited as necessary
  - appropriate references/citations for all information and images (references for online sources must include appropriate active hyperlinks)

That is, you are to explain what your statistician did (has been doing) during her/his life and why (s)he is so important as well as discuss her/his life and interests to show the statistician as a person. (HINT: If you use the items above as a check list then you will be able to cover all the required elements.)

You must have at least five (5) research references *NOT* including the course textbook and *NOT* including the resources available on MyMathLab. While the minimum number of research references has been set at five (5), using additional research references will enable you to obtain more information and details about the life of your statistician as well as her/his work including any concept(s), method(s), and/or applications that (s)he helped to develop; using more research references will help you to find more information and enhance your knowledge and understanding of your statistician as a person and improve your understanding of her/his work in statistics and other disciplines. At least one of these research references must be a printed source that is not a textbook (that is, a history of statistics/mathematics text, or a full-sized article (not a snip-it) in a newspaper, magazine, or journal or a brief obituary or tribute) and at least one of these research references must be reputable web site; Wikipedia is *NOT* an acceptable reference. Research references do *NOT* include sources for pictures of your statistician or sources for images/tables/diagrams used in your PowerPoint or presentation. Please be careful to use only reputable web sites; you will earn less credit for using questionable/unacceptable sources. The quality of your research references will affect the quality of your MS PowerPoint presentation/slides, your paper, your online presentation as a whole, and your contributions to the online discussion/comparison of these mathematicians.

You are expected to provide a bibliography for all components of this assignment: the MS PowerPoint presentation must include citations/footnotes for all images taken from web sites or scanned from printed sources as well as a complete bibliography for the research sources used; please remember that a works cited is not the same as a bibliography. The citations/footnotes and the bibliography must be given using correct bibliographic format using the style (Chicago Style, not MLA, APA, or any other reference style) specified on the course web site; all URL's must be active hyperlinks. In the bibliography for each component of this assignment, research sources must be listed separately from the sources for pictures, diagrams, tables, and other images included in the PowerPoint and presentation.

Your MS PowerPoint slides, paper, online presentation, and online discussions will be evaluated on, *among other things*, the quality of content including the manner in which the statistical concepts and/or methods are presented and discussed and the proper use of statistics notation, the quality of the references and the accuracy of the presented information, the accessibility/explanation of the statistics discussed/presented, the way in which the online presentation is given, and the appearance of the MS PowerPoint slides. Please remember that your MS PowerPoint slides must be readable: use a font of sufficient size to ensure that the slides may be read. In addition, be careful of your color and background choices as these can make the MS PowerPoint presentation/slides difficult to read; for more information, please visit <http://www.lighthouse.org/accessibility/design/accessible-print-design/effective-color-contrast/> for information regarding effective color contrast as well as <http://www.lighthouse.org/accessibility/design/accessible-print-design/making-text-legible/> for information on making text legible. If your MS PowerPoint slides are difficult to read then you will earn a lower grade on the MS PowerPoint slide component of this assignment.

If you would like some reference information on using MS PowerPoint, please feel free to access my MS PowerPoint handout is [http://www.framingham.edu/~smabrouk/lctcm/Intro\\_to\\_MS\\_PowerPoint\\_2000.pdf](http://www.framingham.edu/~smabrouk/lctcm/Intro_to_MS_PowerPoint_2000.pdf); This handout may be accessed using the Site Map and the Conference Handouts hyperlinks on <http://www.framingham.edu/~smabrouk/>.

Selection of statisticians will be on a first-come-first-served basis on Blackboard only. On Blackboard, you will sign up for one (1) statistician, and each statistician can only be researched/studied by one (1) person. When you sign up, use the full name of the statistician as the title/subject of your thread (discussion posting), and, in your thread/posting, include the full name of the statistician as well as your full name. **Sign-up will commence on Thursday, February 4, 2010 at 12 AM and will end on Monday, February 8, 2010 at 11:59 PM**; this forum on Blackboard will not display until Thursday, February 4<sup>th</sup> at 12 AM.

Your preliminary list of at least five (5) research references, using complete bibliographic format (Chicago Style, not MLA, APA, or any other reference style), will be due by email by **Monday, February 22, 2010 at 11:59 PM**. You will submit your list of research references, using correct bibliographic format and the appropriate style *in the text of a message* with subject line *MATH 117 ONLINE Statistics: History References*. If you send your list of at least five (5) research references as an attachment then you will earn zero (0) points on this component of the assignment. Research references do *NOT* include references for pictures or sources for diagrams used in your presentation or presentation. For this preliminary list of references, the research sources must be listed separately from the sources for pictures, diagrams, tables, and other images and, again, you must have at least five (5) research references.

The MS PowerPoint file is due by email on **Wednesday, March 10, 2010 by 11:59 PM**. Late files will not be accepted: files received after the 11:59 PM deadline on Wednesday, March 10, 2010 will earn a grade of zero (0). The MS PowerPoint file must be sent as an attachment to an email with the subject line *MATH 117 ONLINE Statistics: History MS PowerPoint File*. Again, the PowerPoint must include at least one slide for the bibliography and the research sources must be listed separately from the sources for pictures, diagrams, tables, and other images.

The online presentation with the MS PowerPoint file must be posted on the *History of Statistics – Presentation* forum on Blackboard by **Friday, March 12, 2010 at 11:59 PM**; your online presentation is essentially due on Wednesday, March 10<sup>th</sup> but you are being given the two extra days to post your presentation on Blackboard in order to accommodate Blackboard “traffic”. Your online presentation must include a four-page (minimum, not including footnotes and bibliography; using *at most* 11-point Arial or 12-point Times New Roman) summary of the life and times of your statistician, covering all the points listed on the first page of this assignment handout; this summary must be posted as the thread and NOT as an attachment. Your MS PowerPoint presentation must be posted as an attachment to this posting on Blackboard. Again, the bibliography must be included and the research sources must be listed separately from the sources for pictures, diagrams, tables, and other images included in the presentation; this bibliography may NOT be included in the page-count for the paper component of the presentation.

With the completion of the postings of the history of statistics presentations on March 12<sup>th</sup>, you will read all the class presentations prior to the start of the online discussions of these statisticians on **Monday, March 22, 2010**. You will discuss, compare and contrast your statisticians: compare the contributions of these statisticians to Statistics, in general, and their contributions to the disciplines in which Statistics is used; contrast the backgrounds of these statisticians and how they came to contribute to Statistics; highlight those whose areas of study and areas of interest were not actually Statistics – and there are many; discuss their lives and the possible effect of world events on their lives, their work, and their development/exploration of Statistics; and consider and discuss why they developed the statistical methods/tools for which they are famous.

The statisticians (for this assignment) are listed below. Please research your statistician and her/his contribution(s) to statistics carefully. Try to learn as much as you can and have some fun as you learn about concepts, tests, and methods of statistics that you may have learned or heard about in the past and mathematicians/statisticians about whom you may have heard. In short, learn, explore, and enjoy!

- (Reverend) Thomas Bayes
- Gertrude Cox
- William Edwards Deming
- Sir Ronald A. Fisher
- Florence Nightingale
- Charles Dodgson
- Janet Norwood
- Jerzy Neyman
- Karl Pearson
- John Tukey
- George Yule
- David Harold Blackwell
- William Gosset
- William Cochran
- Abraham De Moivre
- Carl Gauss
- Francis Galton
- Alan Mathison Turing
- Alexander Craig Aitken
- Pao-Lu Hsu
- Edna Ernestine Kramer Lassar
- The Bernoulli's
- Augustus De Morgan
- Julia Hall Bowman Robinson
- George Edward Pelhan Box
- Sir David Roxbee Cox
- Ludwig Boltzmann
- Simeon Denis Poisson
- Charles Edward Spearman
- Adrien-Marie Legendre
- Adolphe Quetelet
- George Pólya
- Genichi Taguchi
- Walter Shewhart
- Henry Scheffe
- Sir Maurice George Kendall
- David George Kendall
- Carlo Emilio Bonferroni
- Frank Wilcoxon

**NOTE:** You may NOT select a person other than those included on the list above.