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| Learning Objectives |
| Objectives  1. Develop skills required to manipulate and analyze large datasets. 2. Conduct inquiry-based investigations. 3. Develop students’ reasoning about statistical variation and error analysis. 4. Engage students in authentic scientific discourse |
| How to Complete This Module: (Instructions for students)  1. Review Excel by completing the reading assignment 2. Engage in a class conversation on what a data set is and how a data set can be used to answer a research question 3. Complete the assignment 4. Present a poster in class that summarizes your dataset inquiry and be prepared to share your work. |

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| Teaching Strategies - How will you be teaching the students? |
| Readings Instructor will choose from the following resources to give as reading:   * [Excel Essential Training (LinkedIn Learning)](https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.linkedin.com%2Flearning%2Fexcel-essential-training-office-365%2F&data=02%7C01%7Cnabramzon%40cpp.edu%7Ce74d8075d6a44833738808d77849f1d2%7C164ba61e39ec4f5d89ffaa1f00a521b4%7C0%7C0%7C637110131289267449&sdata=Ghhydj0rIsSlnQAJ%2FVYQV5I9l1lKDQZ2jm0Cdfnd5yU%3D&reserved=0) * [Excel Training (Microsoft)](https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsupport.office.com%2Fen-us%2Farticle%2FExcel-training-9bc05390-e94c-46af-a5b3-d7c22f6990bb%3Fui%3Den-US%26rs%3Den-US%26ad%3DUS&data=02%7C01%7Cnabramzon%40cpp.edu%7Ce74d8075d6a44833738808d77849f1d2%7C164ba61e39ec4f5d89ffaa1f00a521b4%7C0%7C0%7C637110131289277438&sdata=mmSV6tZlULyrijErHgLFtvblIZngv8zuiPdvp3GF2Fg%3D&reserved=0) * [Google sheets Training](https://www.youtube.com/watch?v=Y8jhi_yZKOg&vl=en) * [One more on google sheets training including stats tutorial](https://docs.google.com/spreadsheets/d/1YMFk9RACo8CDedp6BBWbrcGmG_5L_WTcMyLq1visk-I/edit#gid=2042420736)  Lecture and Content (How you will present module content to students): Attached is a power point leading students through the activity, The slides include:    Data set inquiry activity slides   * Goals for Data Set Inquiry Activity * Introduction to data-stets * Example using a data set to perform a full *inquiry*   **Resources for making a poster:** <https://ugs.utexas.edu/our/poster> |

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| Assignments and Assessments |
| Assignments :Using an existing data set preform a full inquiry.  * Ask a testable question * Suggest a specific data analysis o provide evidence to answer the question * Perform data analysis using excel or google sheets * Conduct error analysis and/or statistical analysis * Present the full inquiry in a form of a poster   [Click here for the assignment to hand to students](https://docs.google.com/document/d/1mmtLdbjvZYgGZ4ToJ9uDSw9PZnkh0x3KQTD-9NtT7YM/edit?usp=sharing) Assessments:  [Rubric to assess projects:](https://docs.google.com/document/d/1VgU8mfr9zIvYg3XYDAKfey4buhOO7NFMOBtafct07pQ/edit?usp=sharing)  [Rubric to assess the poster specifically](https://docs.google.com/document/d/10y-f3WJDHTEm1FxzHH447fM2CTw6MD20MOmXU_xvsiU/edit?usp=sharing)  Additional resources:  If students need more background on developing a testable question refer to part 1 of the following activity that can be performed before doing this module:  [https://www.biointeractive.org/classroom-resources/asking-scientific-questions](https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.biointeractive.org%2Fclassroom-resources%2Fasking-scientific-questions&data=02%7C01%7Cnabramzon%40cpp.edu%7Caf296f8a660e4480d7cd08d8099313f3%7C164ba61e39ec4f5d89ffaa1f00a521b4%7C0%7C0%7C637269875620566779&sdata=F9zjKig%2F9ChDRL%2F3ibTpO6cBN2DFs4771oXAHEAKOK4%3D&reserved=0) |