Data Science & Policy Analysis (DSPA) Certificate
Frequently Asked Questions (FAQs)
Certificate Coordinator: Dr. Varun Rai (rai@austin.utexas.edu)

TEXAS LBJ School
The University of Texas at Austin
Lyndon B. Johnson School of Public Affairs

Frequently Asked Questions (FAQs) about Certificate Process

1. **What are the first steps if I want to pursue the DSPA certificate?**

   Carefully review the information in the DSPA Certificate datasheet. Schedule a time to meet with the DSPA Certificate Coordinator, Dr. Varun Rai (rai@austin.utexas.edu), to discuss any questions, and make a high-level plan to complete the required coursework and individual research project. Also, email your academic student advisor to notify them of your intention to pursue the DSPA certificate.

   Refer to the DSPA Certificate webpage for updated information.

2. **Do you need any background in programming or advanced data analysis before pursuing the certificate?**

   No, you do not need any background in programming or advanced analysis before pursuing the certificate. Many of those pursuing the certificate are learning their data science and programming skills for the first time from coursework within the certificate.

3. **Are there free classes/coursework online I can take to assess my skill level and decide if I want to pursue the DSPA Certificate?**

   Yes! There are a lot of free classes/coursework online that can help you decide if you are interested in pursuing the DSPA Certificate. Here are some resources:
   - *R / R Studio*
     - Introduction to R (Datacamp)
     - Learning R/R Studio (LBJ's Data Studio Prework Slides)
     - Tidymodels (RStudio/Posit)
   - *Python*
     - Introduction to Interactive Python (Coursera)
     - Python for Beginners (CodeCamp video)
   - Stata
     - Tour of the Stata 17 Interface (StataCorp video)
     - Getting Started with STATA (StataCorp video)
   - *General Data Analysis / Data Science*
     - Data Science for Everyone (DataCamp)

   Please note, that doing these free classes are only optional -- it is not required to do these before you pursue the certificate. Similarly, doing these won't satisfy any of the certificate requirements.

4. **Who is the best person to contact to learn more about the DSPA Certificate?**
   The DSPA Certificate Coordinator, [Dr. Varun Rai](#) (rai@austin.utexas.edu), will be the most knowledgeable person for detailed questions.

   For questions and informal advice from students, join the LBJ student Slack channel #data-science-dspa-certificate (contact GPAC [gpaclbj@gmail.com](#) to be added to the student Slack).

5. **How do you get approval to take courses outside of the pre-approved list to count for the certificate?**
   Some potential opportunities for outside-LBJ or non-cross-listed courses can be found by searching the Office of the Registrar course lists for Data Science (DCS), Computer Science (CS), or Information Studies (INF). Please note that opportunities to enroll in these courses might be limited and are governed by the policies of the home department/school. The DSPA Certificate Coordinator/LBJ School will not be able to assist in securing enrollment in any non-LBJ courses.

   If the courses are not cross-listed with the LBJ school, email the course professor to ask whether they accept LBJ master's students. If so, ask for a copy of their course syllabus.

   Email the syllabus and which DSPA skill requirements the course will fulfill to the DSPA Certificate Coordinator, [Dr. Varun Rai](#) (rai@austin.utexas.edu), for approval. Upon approval, email your LBJ academic advisor to ensure you can successfully enroll and receive credit hours toward your master's program with that course.

6. **Is the Professional Report (PR) course required?**
   The PR academic course is not required. But it is one option to fulfill one of the required courses and the Data Science Project (DSP) requirement.

7. **How long before graduation should I start the DSPA Certificate?**
   It is best to start DSPA coursework at least two semesters before your graduation. It is possible to finish in one semester, however, there are multiple factors such as course availability and time to complete the research project that will make it difficult to achieve in your last semester alone.

8. **What is the latest time before graduation we can apply for the final DSPA certification?**

    Upon near-completion of the DSPA Certificate requirements, submit the [DSPA Certificate Application for Certificate Completion form](#) at least *one month prior to graduation* in order to receive recognition on the student's graduation day.

    We understand that there might be some coursework and/or Data Science Project (DSP) work that you are finishing up during your last semester. It is not a cause of concern -- submit the form, explain the outstanding requirements you plan to fulfill, and the administration will be able to sign off your certification accordingly.

9. **Can coursework be applied retroactively for the DSPA Certificate?**

    As long as the coursework was completed as you were enrolled in your current graduate studies program at the LBJ School, retroactive credit <u>may</u> be applied toward the course requirements for the DSPA Certificate. If this is not a pre-approved DSPA Certificate course, email the syllabus and relevant skills you acquired to the Certificate Coordinator [Dr. Varun Rai](#) (rai@austin.utexas.edu) for approval. Dr. Rai will review your request and might ask for further clarification before approval. However, approval is not guaranteed and will depend on how closely the course fits the general framework of the DSPA certificate.

10. **Which LBJ School program students (MPAff, MGPS, Dual, PhD, DC) are eligible to pursue the certificate?**

    All LBJ graduate programs are eligible to pursue and receive the DSPA Certificate. Contact your respective academic advisor for DC-Program and Ph.D. candidates to see if planning for the DSPA Certificate would be a good option for you.

11. **Does the certification appear on our transcript/degree?**

    No, it will not appear on your transcript/degree. But you will receive a certificate of completion and this accomplishment will be formally recorded in LBJ School academic records. You have the option to have your report hosted online on the LBJ School DSPA webpage. To avail of this option, please be sure to check the appropriate permission box in the [DSPA Certificate Application Completion Form](#) when applying for DSPA certificate.

12. **Can class credit count toward more than one Dean's certificate?**

    Yes, classes can count for more than one LBJ Dean's certificate if both are listed and approved by the certificate coordinators.

13. Are non-LBJ students allowed to pursue the DSPA certificate?

Unfortunately, non-LBJ students may not pursue the DSPA certificate at this point. It might become an option at a future date, but isn't available right now.

14. What skills will I attain by pursuing the DSPA Certificate?

The core skills students will develop include:

      i.   Proficiency in modern data software platforms (e.g., Python, STATA, R, and more).

      ii.   Familiarity with and working knowledge of various statistical/machine learning methods.

      iii.   How to identify and process reputable datasets, including feature engineering.

      iv.   How to summarize and visualize data effectively.

All these skills are to be applied toward an individual research project of the students choosing to derive new insights and policy perspectives.

Individual Data Science Project (DSP) Questions

1. **What are the specific parameters/boundaries of the Data Science Project (DSP)?**
   As defined in the [DSPA datasheet](#), the project component requires the successful completion of an original, individual policy analysis project using statistical and data science tools applied to a real-world empirical dataset, demonstrating proficiency in all the above skills.

2. **Which "modern software platforms" are acceptable?**
   Modern software platforms: R, Python, Stata, Tableau, TensorFlow, and others if they are used in a way that taps into the data science modeling and analysis capabilities of these platforms. If there are alternative platforms you wish to utilize, discuss this with the Certificate Coordinator [Dr. Varun Rai](#) (rai@austin.utexas.edu).

3. **How "large" does the dataset need to be?**
   The definition of large-scale dataset use in DSP is flexible; what is more important for the DSP is the application of data science tools to a real-world empirical dataset.

4. **Can RGK Center CONNECT projects count toward the individual data science project (DSP) if it meets the requirements?**
   No, external or consulting-based projects (including CONNECT projects) that are not part of regular LBJ coursework do not qualify to meet the DSP requirement..

5. **Can Policy Research Projects (PRP) count toward the individual data science project (DSP) if it meets the requirements?**
   PRPs might be applicable toward the DSP requirement if the student can demonstrate adequate INDIVIDUAL contribution to the data science aspects of the project and they can secure confirmation of such from the PRP lead professor. Students should seek approval from DSPA Certificate Coordinator [Dr. Varun Rai](#) (rai@austin.utexas.edu) for PRP-related projects well in advance of certificate completion.

6. **What are projects that would count for the Data Science Project (DSP) requirement?**
   DSPs must be done as part of LBJ degree coursework. Students can take a Professional Report (PA398R) course for academic credit to meet the DSPA requirement, however, a PR course is not the only option to complete a Data Science Project (DSP). Refer to the [DSPA Certificate Datasheet](#) to review other options and project requirements.

7. **Where can I find suitable database sources for my research project?**

   Common sources include:
   - Kaggle: https://www.kaggle.com/datasets
   - Data.gov: https://catalog.data.gov/dataset
   - American Community Survey (ACS): https://www.census.gov/programs-surveys/acs/data.html
   - GitHub: https://github.com/awesomedata/awesome-public-datasets
   - Eurostat: https://catalog.data.gov/dataset
   - Harvard Dataverse: https://dataverse.harvard.edu/
   - FiveThirtyEight: https://data.fivethirtyeight.com/

   Remember these are only some ideas, students are not limited to only using these data sources for their research projects. Students are encouraged to explore the above and additional resources to get acquainted with to eventually select which dataset(s) they would like to use for their DSP.

8. **I have completed a project that seems like it would qualify for the DSP requirement, would I be able to count it retroactively?**

   Yes, you will be able to count those projects retroactively if they were done as part of LBJ coursework and meet the criteria for qualifying DSPs. Email the DSPA Certificate Coordinator, Dr. Varun Rai (rai@austin.utexas.edu), with a description of your project and how it meets the DSPA Certificate requirements to receive confirmation.

9. **How do you submit the Data Science Project (DSP)? Is there a form? If it's done in a class, do I only need a professor's signature for it to be accepted?**

   The project is submitted with the DSPA Completion Form for the certificate, and the faculty member supervising the course must certify that the submitted data science project demonstrates proficiency in all four required skills. The certification could be a signed letter or an email to the DSPA Certificate Coordinator from the supervising faculty member.

10. **Are there different standards for the Professional Report (PR) compared to an individual Data Science Project (DSP)?**

    The same standards apply for DSPs and PRs. For students who choose to use their PR as an option to satisfy the DSP requirement, we envision that parts or, in some cases, the entirety of a PR would fulfill the DSP requirement. The key differentiation isn't between a PR or a non-PR project, rather in that the data science project demonstrates proficiency in all four required skills and the faculty member supervising the course must certify that the submitted data science project demonstrates proficiency in all four required skills.

11. How do I find a data science project (DSP) faculty advisor?

LBJ faculty who teach DSPA-approved coursework are usually open to advising students. You should also reach out to LBJ faculty who teach on policy topics of interest to you. They may not have data science expertise, however, they can help with the initial framing of policy questions to study and introduce you to other relevant literature.

12. Are there previous examples of DSPs that can be viewed?

Published Samples

Note: most DSPs will not be published and publication is not required

Sanderson, Mackenzie Elizabeth, and Raissa Fabregas. "[The Power of Democratic Stock: Recent Democracy Protests on Foreign Aid Disbursements / by Mackenzie Elizabeth Sanderson.](#)" University of Texas, 2021.

Unpublished Samples

Carlisle, Geoffrey. ["Why are you attacking me?" An Analysis of Anti-Equality Youth Laws and the Experiences of LGBTQIA+ Youth in K-12 Schools.](#) Data Science Project, LBJ School of Public Affairs, 2022.

Dominguez, Guillermo. [The Kalamazoo Promise and College Enrollment.](#) Data Science Project, LBJ School of Public Affairs, 2021.

Daniels, Dashiell. [Do Local Communities Benefit from Renewable Energy? Evidence from the U.S. Wind Industry.](#) Data Science Project, LBJ School of Public Affairs, 2020.

Tenison, Ethan. [Resource Diversification and Dependence in the Nonprofit Sector.](#) Data Science Project, LBJ School of Public Affairs, 2020.