

DTSC 1301/1302: Data and Society (section 01)

Semester: Fall 2024

Days and Time: Tuesdays and Thursdays, 2:30 pm - 5:15 pm

Location: Colvard South, Room 1040

Course Duration: Aug 19, 2024 - Oct 8, 2024

Course Credits: 3

Instructional Team

INSTRUCTORS

Instructor

Justin Grandinetti, PhD (Dr. G.)

Email: jgrandin@charlotte.edu

Office Hours: Tuesdays and Thursdays, 10:00-12:00 pm (or by appointment)

Office Location: Colvard Building 5015

Instructor

Marco Scipioni, PhD

Email: [mscipion@charlotte.edu](mailto:m SCIPIONI@charlotte.edu)

Office Hours: Mondays/Tuesdays, 1:00-2:00 pm

Office Location: 1028M, Colvard Building *South* (School of Data Science suite)

TEACHING ASSISTANTS

Teaching Assistant (Data Science)

Name: Samy Babikerali

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Teaching Assistant (Data Science)

Name: Sumedha Chadalavada

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Office Hours

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Course Description

An introduction to data acquisition, models, and analytic methods for interpreting data and developing hypotheses in the context of the interdisciplinary field of Critical Data Studies. Critical Data Studies seeks to track, analyze, and transform the use of large data sets across a variety of domains, including the health sciences, security and surveillance technologies, social media, marketing and business, government and public policy, and other uses of aggregative and algorithmic data science. With resources from Critical Data Studies, students learn how to use statistical methods/tools and scripting programming languages to explore social problems and the ethical implications of collecting and using tabular data.

Course co-requisites. [DTSC 1302](#)

[Links to an external site.;](#) [STAT 1220 Links to an external site.](#), [STAT 1221 Links to an external site.](#), [STAT 1222 Links to an external site.](#)

Course Objectives

Upon successful completion of DTSC 1301 and DTSC 1302, students will be able to:

Data Science Research Skills

- Develop hypotheses that anticipate associations in data based on a thorough literature
- Evaluate the unique position of citizens in social phenomena that occur in the US and the world
- Understand and linking social, economic, and political concepts to measurement, data collection, and analysis

The Ethics of Data Science

- Evaluate ethical and policy-based debates within data
- Apply ethical principles/values/frameworks within data-driven organizational
- Understand and present the positions on multiple sides of an ethical issue, including the reasons, principles, and values offered in ethical arguments.
- Understand and assess the ethical stakes of conducting research on or about human subjects
- Critique arguments that involve ethical issues in data

Data, Computing, Statistics, and Probability

- Collect and clean data obtained from various datasets
- Appropriately deal with missing values
- Use a statistical programming language to perform data analysis
- Create statistical models using the concepts of correlation, linear regression, least squares, residuals
- Test hypotheses and identify statistically significant results

Course Materials

- Students must have access to a laptop or desktop

- Linux, Windows 10, or macOS operating system preferred. ChromeOS will suffice but has
- All software required for the course is free and open source.
- All readings for the course will either be open source or available for free through the University library.

Course Strategy

Teaching methods are grounded in an interdisciplinary studio style approach to learning in which students are presented with cross-disciplinary data science challenges that guide the mini lectures, in-class activities, and group data-driven projects. Students are expected to participate in discussions, problem solving, critical thinking exercises, analysis of case studies, collaboration, peer-teaching, and design and critique sessions. All students are expected to contribute in a meaningful way to team efforts.

Course Grading

DTSC 1301 is a PASS/FALL course which means that students, at the completion of the course, will receive either a passing grade (P) or a failing grade (F) based on the percentage of the final grade that is worth 100%.

Weighted Grading Scheme

Attendance, data science assignments, ethics assignments, and the midterm exam are assigned % weights out of a total of 100% (see table below).

Task	% of Final Grade
Attendance	10%
In-class activities	10%
Data Science Assignments	25%
Data Ethics Assignments	25%
Final Exam	30%

Earning 60% or higher = **PASSING** the course.

Earning 59 % or less = **FAILING** the course (see table below).

% Grade	Final grade assigned
[90%, ∞)	A
[80%, 89%)	B
[70%, 79%)	C

[60%, 69%)	D
[0%, 59%)	F

- Students will be assigned a grade after completing DTSC 1301 (mid-October).
- **A student must pass DTSC 1301 to continue on to DTSC 1302.**
- Students will be instead assigned a final letter grade for DTSC 1302 at the end of fall session (mid-December).
- To progress to follow-on courses, a student must earn a D or better in DTSC1302.

Classroom Expectations

This syllabus contains the policies and expectations Dr. Grandinetti and Dr. Scipioni have established for DTSC 1301. Please read the entire syllabus carefully before continuing in this course. These policies and expectations are intended to create a productive learning atmosphere for all students. Unless you are prepared to abide by these policies and expectations, you risk losing the opportunity to participate further in the course.

Syllabus Revision Policy

The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes will be by announcement in class [or by written or email notice][or by changes to this syllabus posted on the course website at (URL)].

Classroom Policies

Announcements

Important and/or time sensitive announcements will always be sent through Canvas Announcements.

Attendance and Absences

Active participation is an important part of the class. Active participation includes coming to our class meetings prepared to discuss the material (including specific questions you have about the material), responding to questions from others, and engaging in debate. Note that this is an "in-person" class. There will not be an opportunity to participate during our class meetings remotely. Attendance is graded. If you are not present when attendance is taken, you earn zero points. The time at which attendance is taken will vary across our class meetings. There are two conditions under which you will be recorded as attending class when you are not present: (1) absence verification from the office of Student Assistance and Support Services or a (2) a note from a faculty or staff member indicating that you are attending a university-sponsored event.

Classroom Conduct

I will conduct this class in an atmosphere of mutual respect. I encourage your active participation in class discussions. Each of us may have strongly differing opinions on the various topics of class discussions. The conflict of ideas is encouraged and welcome. The orderly questioning of the ideas of others, including mine, is similarly welcome. However, I will exercise my responsibility to manage the discussions so that ideas and argument can proceed in an orderly fashion. You should expect that if your conduct during class discussions seriously disrupts the atmosphere of mutual respect I expect in this class, you will not be permitted to participate further.

Class Preparation

For each class meeting, be sure to bring your laptop or tablet. Complete any assigned readings before class.

Workload Expectations

This 7-week 3-credit course requires 6 hours of classroom or direct faculty instruction, and 12 hours of out-of-class student work each week for approximately 7 weeks. Out-of-class work may include but is not limited to reading and rereading course materials, writing assignments, coding assignments, library research, studying, review and practice, and reinforcement.

Academic Integrity

All students are required to read and abide by the Code of Student Academic Integrity. Violations of the Code of Student Academic Integrity, including plagiarism, will result in disciplinary action as provided in the Code. Definitions and examples of plagiarism are set forth in the Code and on the [Student Accountability & Conflict Resolution website Links to an external site.](#) The Code is available from the Dean of Students Office or online at legal.charlotte.edu/policies/up-407 [Links to an external site.](#) Additional resources are available on the [Student Accountability & Conflict Resolution website Links to an external site.](#)

Faculty may ask students to produce identification at examinations and may require students to demonstrate that graded assignments completed outside of class are their own work.

Syllabus and Course Violations

Violation of these syllabus policies may result in appropriate academic penalties, including reduction of grade in the relevant assignment, project, test, or exam. If violation of these syllabus policies also implicates the Code of Student Academic Integrity because of alleged [academic misconduct Links to an external site.](#), I will follow the [process outlined in the Code Links to an external site.](#) to address such cases.

Assignments and Grading

Late assignments and make-up assignments

It is important that you complete the assignments by their due dates. Many assignments (both homework and in-class) are designed to contribute to a larger, group project. Your team's success depends on your continuous participation and communication with your fellow teammates.

Assignments are submitted and graded once. There is not a general policy of retaking assignments. Students who do not participate in the project will receive a 0 on the project, unless arrangements are made with the instructors.

Late assignments are not accepted

If an emergency interferes with your ability to complete an assignment before it is due, consult with Dr. Scipioni and/or Dr. Grandinetti to see if alternative arrangements can be made.

Group Assignments

Some assignments in this class are completed by groups of students. Early in the semester, the instructors will form students into groups. Groups will be formed by the instructors at random. The composition of groups is the responsibility of the instructors. The instructors can also change the composition of groups if needed.

University Policies on Student Rights and Responsibilities

Non-discrimination

All students and the instructor are expected to engage with each other respectfully. Unwelcome conduct directed toward another person based upon that person's actual or perceived race, actual or perceived gender, color, religion, age, national origin, ethnicity, disability, or veteran status, or for any other reason, may constitute a violation of University Policy 406, The Code of Student Responsibility. Any student suspected of engaging in such conduct will be referred to the Office of Student Conduct.

Title IX Information

UNC Charlotte is committed to maintaining an environment conducive to learning for all students and a professional workplace for all employees. The University takes active measures to create or restore a respectful, safe, and inclusive environment for community members that is free from discrimination, discriminatory harassment, and interpersonal violence. If you (or someone you know) has experienced any of these incidents, know that you are not alone. UNC Charlotte has staff members trained to support you in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with civil protective orders, and more.

Please be aware that all UNC Charlotte employees, including faculty members, are expected to relay any information or reports of discrimination, discriminatory harassment, or sexual and interpersonal misconduct they receive to the [Office of Civil Rights and Title IX](#) [Links to an external site.](#) This means that if you tell me about a situation involving these matters, I am expected to report the information. Although I am expected to report the

situation, you will still have options about how your case will be handled, including whether or not you wish to pursue a formal complaint. Our goal is to make sure you are aware of the range of options available to you and have access to the resources you need.

If you wish to speak to someone confidentially, you can contact the following on-campus resources, who are not required to report the incident to the Office of Civil Rights and Title IX: (1) Center for Counseling and Psychological Services (CAPS) (caps.charlotte.edu [Links to an external site.](#), 7-0311); or (2) Student Health Center (studenthealth.charlotte.edu [Links to an external site.](#), 7-7400). Additional information about your options is also available at civilrights.charlotte.edu [Links to an external site.](#) under the “Students” tab.

Disability Accommodations

Students in this course seeking accommodations to disabilities must first consult with the [Office of Disability Services](#) [Links to an external site.](#) and follow the instructions of that office for obtaining accommodations.

Religious Accommodations

It is the obligation of students to provide faculty with reasonable notice of the dates of religious observances on which they will be absent by submitting a Request for Religious Accommodation Form to their instructor prior to the census date for enrollment for a given semester <http://legal.uncc.edu/policies/ps-134.html> [Links to an external site.](#) Additional resources through the School of Data Science are available to you as a student in this course. Contact one of the professors for this course or one of the people listed below if you need assistance obtaining hardware, software, or subscriptions for this course or have questions about the bachelor’s program in data science, including advising questions about courses to take and requirements for the degree.

FERPA Regulations

In establishing [University Policy 402, Student Education Records](#) [Links to an external site.](#), UNC Charlotte adheres to a policy of compliance with the [Family Educational Rights and Privacy Act of 1974](#) [Links to an external site.](#), also known as FERPA, a federal law that affords students the following rights with respect to their education records. For details, see the [FERPA Annual Notification](#) [Links to an external site.](#) posted on the Office of Legal Affairs website. All questions concerning this FERPA Annual Notification may be directed to the attention of the [Office of the Registrar](#) [Links to an external site.](#)

Wellbeing Resources from the Center for Integrated Care

The [Center for Integrated Care \(CIC\)](#) [Links to an external site.](#) is a one-stop shop for referral and linkage to wellbeing resources both on and off campus. CIC is a front-facing clinical case management department providing coordination of care and continuity of care services, and follow-up for students.

CIC provides outreach and programming to encourage and provide more access to care for students who may be ambivalent, unsure or do not have the desire to seek more formal wellness services. In addition, CIC serves as a triage department for faculty and staff to refer students who may not be experiencing crisis but instead may need clinical guidance and direction. Currently, CIC is housed in the Counseling and Psychological Services Building, occupying a dedicated corridor of offices.

Basic Needs Security

UNC Charlotte defines "basic needs" as those needs that, when unmet, can hinder students' ability to focus on and successfully complete their academic studies. Basic needs include food security, housing security, transportation, health and wellbeing, technology, and child care. Any student who experiences difficulty in one or more of these areas is urged to contact the [Student Assistance and Support Services \(SASS\) Office](#) [Links to an external site.](#) for support with navigating campus and community resources. Students can also consult the [Niner Needs website](#) [Links to an external site.](#) for a list of helpful resources designed to address student needs.

Statement on Preferred Name and Gender Pronouns

All students should be referred to by the names and pronouns they use. If you use a name that differs from the one that appears on the roster, please inform us before the second class period so that we can use your correct name. Feel free to correct us on your preferred gender pronoun as well.

Mental Health Services

It is common for college students to experience challenges that may interfere with academic success such as academic stress, sleep problems, juggling responsibilities, life events, substance misuse concerns, relationship concerns, or feelings of anxiety, hopelessness, or depression. If you or a friend is struggling, we strongly encourage you to seek support. Helpful, effective resources are available on campus at no additional cost.

- If you are struggling academically with this class, please talk to us.
- Meet with your academic advisor if you are struggling academically in multiple classes, unsure whether you are making the most of your time at UNC Charlotte, or unsure what academic resources are available at UNC Charlotte.
- Visit the Counseling and Psychological Services (CAPS) website at caps.charlotte.edu

🔗 [Links to an external site.](#) for information about the broad range of confidential on-campus mental health services, online health assessments, hours, and additional information.

🔗 Call CAPS at (704) 687-0311 if interested in scheduling an appointment with a counselor. After-hours crisis support is also available through this phone number.

🔗 Contact the Center Wellness Promotion at (704) 687-7407, by email at wellness@uncc.edu or visit the website at wellness.charlotte.edu

- [Links to an external site.](#) for more information on how to develop healthy attitudes and behaviors as it relates to relationships, mental health, alcohol, tobacco, or other drugs and sexual health.

Contact Information for the School of Data Science

- Dongsong Zhang, Executive Director of the School of Data Science
dzhang15@charlotte.edu
- Joshua Hertel, Director of the School of Data Science jhertel@charlotte.edu
- Carly Mahedy, Director of Student Services for the School of Data Science
cletcher@charlotte.edu
- Webpage for the School of Data Science: <https://datascience.uncc.edu>

[? Links to an external site.](#)

[? Links to an external site.](#) Undergraduate Programs page:

<https://datascience.uncc.edu/academic-programs/undergraduate-programs>