

# DAT 102 | Course Syllabus | Fall 2019 | CCAC

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## Course info

Category	Content
Registration Classification	Number and Title: DAT102 - Introduction to Data Analytics Credits: 3 Hours: 3 hrs/week "lecture" Prerequisties: None
Catalog Description	In this course, students will examine the concepts of data analysis and how it impacts the business process. Emphasis will be placed on the development of sound research questions, the identification and verification of data sources, the retrieval, cleaning, and manipulation of data and the process for identifying the data elements that are relevant for a given audience. An overview of the regulatory organizations that govern the release of data will also be reviewed.
Sections	CCAC North: Mondays, 6-9pm, Rm 1126
Instructor Information	Eric Darsow Computer Information Technology (CIT) Department Phone (shop): 412.894.3020 Email: edarsow@ccac.edu
Course Materials	Technologyrediscovery.net is your home for this course. We will not use a BlackBoard course site since the system is a pain to use for getting basic information easily and quickly (and it's closed source software).  Aside from this book, we'll prioritize resources that are available for no charge on via the internet, all of which will be linked via our session pages linked on the course schedule.  Your instructor has assembled a class set of statistics edition 1 textbooks written by the <a href="#">Lock family</a> called " <a href="#">Statistics: Unlocking the power of data</a> " and we will be using their associated online data processing tool <a href="#">StatKey which is free and javascript based</a> so it runs in any modern browser. You are invited to acquire your own copy of the 1st edition text book which is available for about \$15 online.

## Learning Outcomes

*File manipulation and data storage*

1. Demonstrate decision analysis techniques and tools.
2. Leverage database software to solve business problems.
3. Explain how managers use data analytics to formulate and solve business problems.
4. Differentiate among descriptive, predictive and prescriptive analytics.
5. Present simple visualizations to address given scenarios.

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## Listed Topics

1. Decision analysis techniques and tools
2. Database software uses
3. Problem solving with data
4. Descriptive, predictive and prescriptive analytics
5. Data visualization

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## Assessment of learning objectives

### *Assessment Philosophy*

As a lab-like course built around using data analytics tools to solve non-trivial, business-related problems, course assessments in DAT102 are based on fully-baked student work products. In relation to the course learning model diagrammed above, student work projects emerge at the end of each module and at the conclusion of the component's culminating project.

The instructor provides incremental feedback to students during the course of the module's individual project work time--often called formative assessment. Small misunderstandings or trouble spots that emerge inside a module can be ironed out before they impede the larger learning goals of the component. After all modules are mastered and a final project completed the instructor offers additional, formal feedback concerning the project's alignment to its design specifications is provided.

Students complete the following steps in advance of their presentation and feedback session for their culminating project:

- Project design specifications
- Project flow diagram adjusted to reflect actual implementation
- Thoughtful responses to "heart-of-the-matter" questions

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### *Using design criteria alignment in place of rubrics*

The best assessment tools are those with which the students directly engage in creating and using. This can take the form of a class-generated project rubric, for example. As students create assessment criteria prior to implementing a project, the resulting work is both more likely to align to the assessment criteria and meaningfully assist students in completing their work. When that rubric is then used by the students to assess their own work, valuable mental processes are underway which tend to naturally improve skill and confidence.

Rubrics are widespread and useful tools for many types of student work outside of the technical design realm. In a technical class, such as this data course, the process of assessing student code against initial design

requirements organically takes the place of rubric-based assessment without displacing its generic value as a teaching tool.

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### ***Student-driven grading***

This course utilizes the technology rediscovery student-driven [free-from-point grading system described here](#).

### ***Mapping project performance to course letter grades***

The following table serves as a possible correlation guide between module and component project assessment and the formal course letter grades instructors assign to each student at the conclusion of the semester:

<b>Course Letter grade</b>	<b>Student performance criteria</b>
A	Independent practice for <b>each model is completed and documented</b> . Culminating projects for each component meet all specified design criteria. Component reflections show <b>evidence of synthesis</b> with other technical learning domains.
B	Independent practice for each module has been <b>attempted but not consistently documented</b> to reveal command of the code. Culminating projects for each component meets some but not all design criteria. Component reflections show <b>moderate thought, limited to current learning topics</b> .
C	Independent practice for <b>1/2 to 2/3 of modules has been attempted</b> but not consistently documented. Culminating projects for each component <b>meets some but not all</b> design criteria. Component reflections show <b>low levels of thought</b> relative to A and B work.
D	Independent practice for <b>less than 1/2 of modules</b> has been attempted but not consistently documented. Culminating projects for each component meets few, if any design criteria. Component <b>reflections are incomplete</b> .
F	Independent practice for 1/4th or fewer of modules has been attempted and not consistently documented. <b>Culminating projects were not meaningfully attempted</b> . Component reflections were not attempted.

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## **Accommodations for Individuals with Disabilities:**

The college recognizes its responsibility to provide academic and nonacademic services and programs equally to individuals with and without disabilities. To this end, the college provides reasonable accommodations for qualified students and employees with documented disabilities consistent with the requirements of the Americans with Disabilities Act, sections 503 and 504 of the Rehabilitation Act and other federal, state and local laws and regulations. The college maintains an Office of Supportive Services at each campus location to receive, review and evaluate requests from students who require an accommodation with respect to their educational program. Students' requesting reasonable accommodations due to a documented disability must first register with their campus' Supportive Services Office and obtain an official letter identifying approved accommodations to be distributed to their faculty members.

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## **Attendance Procedure for Pregnancy and Pregnancy Related Conditions:**

In accordance with Title IX of the Education Amendments of 1972, absences due to pregnancy or related conditions, including recovery from childbirth, shall be excused for as long as the absences are determined to be medically necessary. Students will be provided with the opportunity to make up any work missed as a result of such absences, if possible. For more information or requests for accommodations, students should inform their instructor(s) and/or contact the Civil Rights Compliance Officer/Title IX Coordinator, Sumana Misra-Zets, at 412.237.4535 or [smisra@ccac.edu](mailto:smisra@ccac.edu).

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## **Attendance Procedure for Religious Observance**

The college will make reasonable efforts to accommodate students who must be absent from classes or miss scheduled exams in order to observe a religious holiday or participate in some other form of religious observance. Students shall be provided, whenever possible, reasonable opportunity to make up academic assignments missed due to such absences, unless doing so would create or impose an undue burden on other students or the College. It shall be the students' responsibility to provide written notice via the Request for Accommodation for Religious Observances Form (accessible at <https://www.ccac.edu/nondiscrimination/>) to every instructor for each course in which an accommodation is being requested. For more information contact the Civil Rights Compliance Officer/Title IX Coordinator, Sumana Misra-Zets, at 412.237.4535 or [smisra@ccac.edu](mailto:smisra@ccac.edu).

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## **Chosen First Name Procedure for Students**

Many individuals use names other than their legal first name to identify themselves for a variety of personal and/or cultural reasons. The college seeks to provide an inclusive and non-discriminatory environment by making it possible for students to use a chosen first name on college records when a legal name is not required. Chosen first names may not be applicable in certain programs due to the requirements of accreditation organizations and clinical sites. For more information, please see the [Student Handbook](#)

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## **Syllabus Author**

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