



Welcome to
Foundations
of Data
Science

Dr Giuseppe
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Welcome to Foundations of Data Science

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Course outline – Analytics



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- 1 Program design in Python
- 2 Data representations
- 3 Data Visualization
- 4 Statistics

Course outline – Machine learning



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- 5 Data-driven applications
- 6 Regression
- 7 Classification
- 8 Introductory topics in Machine Learning

2 **summative** assignments (70% - 30%); plus

Weekly **formative** assignments – the lab sessions.

- Practice, practice, practice, ...
- **Get feedback.**
- Collaborate.

How to score well in coursework¹



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- Start early
- Read the question
- If something appears ambiguous, try different solutions; then, ask your instructor
- Test your program
- **Make your program clear**
- Don't cheat
- Hand in on time

¹Ch. 12 from “How to write good programs”.

Merits, *in order of importance*:

- 1 Intent
- 2 Design
- 3 Correctness (even partial)
- 4 Explanation (incl. results)
- 5 Implementation

Nurture your programming style



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PEP8 (pep8.org) is the default style guide for Python code.

More importantly, let's learn to describe our programs (even partially).

Nobody knows the API reference of a Python library by heart.

Suppose that you want to convert a string, e.g. 'Nov, 2020' into Python's datetime object.

- 1 Search Google, as long as it leads to a proper reference (e.g. `datetime.strptime`)
- 2 Ask fellow colleagues, incl. course instructor



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Enjoy the course!