Course information:

Course title:	Sports Analytics
Course number:	SPMA 4P94
Term/year/duration:	Fall/AY2017-18/D3 S01
Instructor name:	Kevin Mongeon
Email:	kmongeon@brocku.ca
Office location:	AS 302
Office hours:	M: 10:00-11:00
Contact:	905-688-5550 x 5155

Times and locations:

Class time:	Tuesday 9:00 – 12:00
Class room:	MCA 203

Calendar description:

Quantitative analyses and data mining methods to evaluate player performance and model game outcomes. Development, management and execution of a successful sport analytics program. Lectures, lab, 3 hours per week.
Restriction: open to SPMA majors with a minimum of 13.0 overall credits.

Course prerequisites:

SPMA 3P07

Learning objectives:

1. Understand sport analytic theories driving empirical approaches
2. Explain key factors relating to successful sport analytics programs
3. Develop software skills to efficiently pursue sport analytics
4. Learn and replicate existing sport analytics models
5. Interpret model parameters and assess model design
6. Make and assess predictions
7. Develop new sport analytic models
8. Articulate models and results to a broad spectrum of people

Readings

Downey, Allen, Jeffrey Elkner, and Chris Meyers. How to Think Like a Computer Scientist: Learning with Python 2nd Edition, Version 2.2.23. Green Tea Press, 2002
http://greenteapress.com/wp/think-python-2e/
http://greenteapress.com/thinkpython2/html/index.html
https://github.com/AllenDowney/ThinkPython2

Data Analysis in Python
http://www.data-analysis-in-python.org/

Recommended readings

Martin, Lorena. Sports Performance Measurement and Analytics: The Science of Assessing Performance, Predicting Future Outcomes, Interpreting Statistical Models, and Evaluating the Market Value of Athletes. FT Press, 2016.

Miller, Thomas W. Sports Analytics and Data Science: Winning the Game with Methods and Models. FT Press, 2015.

Course communications:

Sakai
Slack
https://SPMA4P94.slack.com
https://join.slack.com/t/SPMA4P94/signup
GitHub
https://github.com/brock-spma/2017_4P94

Required Software:

Python: programming language
Jupyter Notebook: interactive computing environment
https://www.anaconda.com/download

Git: version control system
https://git-scm.com/downloads

Grade composition:

Evaluation Component	Date	Grade Weight
Quizzes	Continuous	40
Test 1	February 13	30
Test 2	March 27	30
Total		100%

Quizzes: In-class or take-home quizzes administered throughout the course. Short answer programming skill questions. Best five of seven quizzes will be used to calculate final course grades. Missed or late assignment will receive a grade of zero.

Tests: In-class. Similar format to quizzes.

Late submission policy:
Late homework assignments will not be accepted unless accompanied by medical documentation. All late submissions will not be graded and received a mark of zero. See Medical Exemption Policy and the medical health certificate at http://www.brocku.ca/health-services/policies/exemption

Relationship between attendance and grades:
Students are expected to attend all classes and submit assignments.

Important dates:

February 19 – 23:	Reading week
April 9:	Last day of classes
April 10 – 11:	Snow/reading days

Academic Integrity:

Statement for undergraduate courses
Academic misconduct is a serious offence. The principle of academic integrity, particularly of doing one's own work, documenting properly (including use of quotation marks, appropriate paraphrasing and referencing/citation), collaborating appropriately, and avoiding misrepresentation, is a core principle in university study. Students should consult Section VII, "Academic Misconduct", in the "Academic Regulations and University Policies" entry in the Undergraduate Calendar, available at http://brocku.ca/webcal to view a fuller description of prohibited actions, and the procedures and penalties.

Intellectual Property Notice:

All slides, presentations, handouts, tests, exams, and other course materials created by the instructor in this course are the intellectual property of the instructor. A student who publicly posts or sells an instructor's work, without the instructor's express consent, may be charged with misconduct under Brock's Academic Integrity Policy and/or Code of Conduct, and may also face adverse legal consequences for infringement of intellectual property rights.

Academic Accommodation:

As part of Brock University's commitment to a respectful work and learning environment, the University will make every reasonable effort to accommodate all members of the university community with disabilities. If you require academic accommodations related to a documented disability to participate in this course, you are encouraged to contact Student Accessibility Services in the Student Development Centre (4th floor Schmon Tower, ex. 3240). You are also encouraged to discuss any accommodations with the instructor well in advance of due dates and scheduled assessments.

Academic Accommodation due to Religious Obligations:

Brock University acknowledges the pluralistic nature of the undergraduate and graduate communities such that accommodations will be made for students who, by reason of religious obligation, must miss an examination, test, assignment deadline, laboratory or other compulsory academic event. Students requesting academic accommodation on the basis of religious obligation should make a formal, written request to their instructor(s) for alternative dates and/or means of satisfying requirements.

Medical Exemption Policy:
The University will accommodate students whose studies become interrupted, or who may be unable to complete academic work, due to an incapacitating medical condition. In these situations, the student must complete the Brock University Student Medical Certificate (or in case of a concussion, the Brock University Student Health Services Medical Concussion Certificate) and include any relevant medical documentation to support his/her request for academic accommodation based

on medical grounds. The University may, at its discretion, request more detailed documentation in certain cases.