Northeastern University
London

Experimental Data Science Project Course Descriptor

Course code	LDSCI5207	Discipline	Computer & Data Science
UK credit	15	US credit	4
FHEQ level	5	Date approved	November 2022
Core attributes	None		
Pre-requisites	LDSCI4211 Programming with Data **OR** LCSCI4208 Fundamentals of Computer Science II		
Co-requisites	LDSCI5206 Advanced Programming with Data **OR** LCSCI5205 Object-Oriented Design; LDSCI5247 Foundations of Data Science		

Course Overview

This course is a research project, possibly interdisciplinary, in data science. Via directed study, students will be able to apply standard taught material on computer or data science (mainly, data-driven software development methods, tools, and techniques) by managing a software project that solves a substantial, real-world problem.

Learning Outcomes

On successful completion of the course, students will be able to:

Knowledge and Understanding

K1b Demonstrate knowledge and critical understanding of the well-established principles that underpin the project's area(s) of study.

K2b Demonstrate a critical understanding of well-established software tools and technologies to solve problems.

K3b Critically evaluate the appropriateness of different methods and techniques used in related work.

Subject Specific Skills

S1b Demonstrate familiarity with codes of ethics (e.g., code licensing, data use) and codes of practice (e.g., testing) underpinning the development of software solutions.

S2b Use well-established methods and techniques to design and implement a software solution for project-related problems.

S3b Use well-established methods and techniques to critically analyse related projects and propose solutions to project-related problems.

Transferable and Employability Skills

T3b Display a developing technical proficiency in written English and an ability to communicate clearly and accurately in structured and coherent pieces of writing.

T4b Carry out projects using a range of modern, well-proven software tools and libraries to appropriate standards.

Teaching and Learning

This course has a dedicated Virtual Learning Environment (VLE) page with a syllabus and range of additional resources (e.g. readings, question prompts, tasks, assignment briefs, discussion boards) to orientate and engage students in their studies.

The scheduled teaching and learning activities for this course are:

- **Directed study.** 4-12 scheduled hours, the exact number varying according to the balance of 1:1s, 2:1s, or small groups. The plan will be confirmed by the start of the course, taking into account student numbers and the proposed topics, readings, and specific tasks.

Faculty hold regular ‘office hours’, which are opportunities for students to drop in or sign up to explore ideas, raise questions, or seek targeted guidance or feedback, individually or in small groups.

Students are to attend and participate in all the scheduled teaching and learning activities for this course and to manage their directed learning and independent study.

Indicative total learning hours for this course: 150

Assessment

Both formative and summative assessment are used as part of this course, with purely formative opportunities typically embedded within interactive teaching sessions, office hours, and/or the VLE.

Summative Assessments

AE:	Assessment Activity	Weighting (%)	Duration	Length (words)
1	Written Assignment	70		3,000
2	Presentation	30	15 min.	

Further information about the assessments can be found in the Course Syllabus.

Feedback

Students will receive formative and summative feedback in a variety of ways, written (e.g. marked up on assignments, through email or the VLE) or oral (e.g. as part of interactive teaching sessions or in office hours).

Indicative Reading

Note: Comprehensive and current reading lists are produced annually in the Course Syllabus or other documentation provided to students; the indicative reading list provided below is for a general guide and part of the approval/modification process only.

- William Strunk Jr. and E. B. White. 1999. The Elements of Style. Pearson.
- Perdita Stevens. How to Write Good Programs: A Guide for Students. 2020. Cambridge University Press.

Indicative Topics

Note: Comprehensive and current topics for courses are produced annually in the Course Syllabus or other documentation provided to students; the indicative topics provided below are used as a general guide and part of the approval/modification process only.

- Problem statement definition
- Software design and implementation
- Debugging and testing of software components
- Documentation

- Presentation and demonstration

Title: LDSCI5207 Experimental Data Science Project **Approved by: Dr Alison Statham** **Location: academic-handbook/programme-specifications-and-handbooks/undergraduate-programmes**					
Version number	**Date approved**	**Date published**	**Owner**	**Proposed next review date**	**Modification (as per AQF4) & category number**
1.0	November 2022	January 2023	Dr Alexandros Koliousis	November 2027	