UNIVERSITY OF CAMBRIDGE COMPUTER LABORATORY

ASSESSED PRACTICAL WORK

Preliminary Notice

This notice provides preliminary information about the timetabling and status of the practical classes given for first-year Computer Scientists and others who offer Paper 1 of the Computer Science Tripos. Please read it carefully.

Practical Work and the First-Year Examinations

The work associated with the practical classes is assessed and the assessments are taken into account in the first-year examinations. The first such assessment takes place in the afternoon of the first Thursday of Lecture Term.

Keep Thursday afternoons free

Thursday afternoons are very busy. They are occupied with practical work, with talks leading up to the practical work and often conclude with a related lecture. The third Thursday afternoon ends with a talk on How to Study Computer Science.

Many Thursday afternoons run on until 6 p.m. or beyond so it is essential not to arrange supervisions, rowing, football or another practical class on these afternoons.

The first *two* Thursday classes begin in Lecture Room 1 in the William Gates Building. On both occasions, the first hour is concerned partly with explaining practical aspects of the ML Programming Language and partly with explaining the assessment procedures.

The second hour consists of an introductory lecture on the use of the local computing facilities. After that the class divides into groups and undertakes the work required for the first assessments.

How to Study Computer Science

On the third Thursday of Term the talk on How to Study Computer Science begins at 5 p.m. in the Arts School, Lecture Room A. Keep this time free.

NST — Computing Techniques and Applications Course

A course entitled Computing Techniques and Applications is given towards the end of the Michaelmas Term as part of subject Mathematics of Part IA of the Natural Sciences Tripos. This is an examinable course and contributes to the overall score in the Tripos next year. The course is largely about implementing mathematical models of physical systems on a computer.

The lectures are timetabled for 11 a.m. on Tuesdays, Thursdays and Saturdays and are therefore not available to anyone taking Evolution and Behaviour. In practice, this potential clash affects very few people and for those who are affected special arrangements are made which will be explained during the Registration session and at the first practical class.

F.H. King
1 October 2009

First-Year Computer Science

Outline Schedule of the Paper 1 Courses

Paper 1 of the Computer Science Tripos is not only taken by Computer Scientists but it is also one of the first-year Natural Science subjects and it is an option for first-year Politics, Psychology and Sociology students. An outline description of the 60 main lectures and the associated practical work which form the basis of Paper 1 is given below.

Foundations of Computer Science — 16 lectures

This course introduces programming languages, algorithms, and other foundation stones of computer science via the functional programming language ML.

Important topics include: growth rates, iteration, recursion, higher order functions, types, polymorphism and lazy evaluation.

Discrete Mathematics I — 8 lectures

This course introduces some mathematical methods which are used in the analysis of computer science problems.

Object-Oriented Programming — 9 lectures

This course explains the abstract notion of object-oriented programming and its particular importance in Java.

Software Design — 9 lectures

This course discusses some of the procedures used when designing professional-quality software.

Floating-Point Computation — 6 lectures

This course discusses the hazards of numerical computing.

Algorithms I — 12 lectures

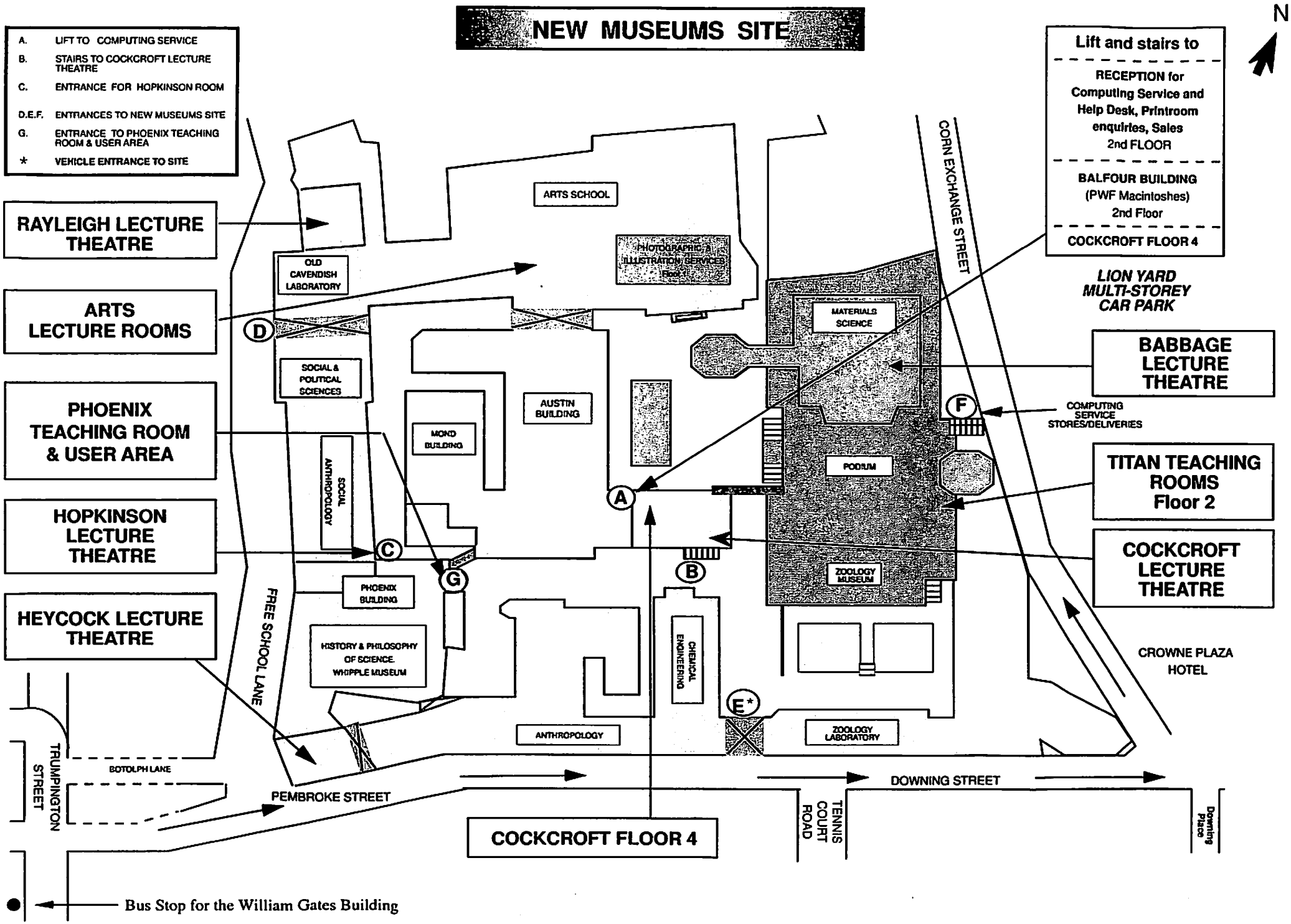
This course provides an introduction to computer algorithms and data structures, with an emphasis on foundational material.

Programming in Java — 8 Practical Classes

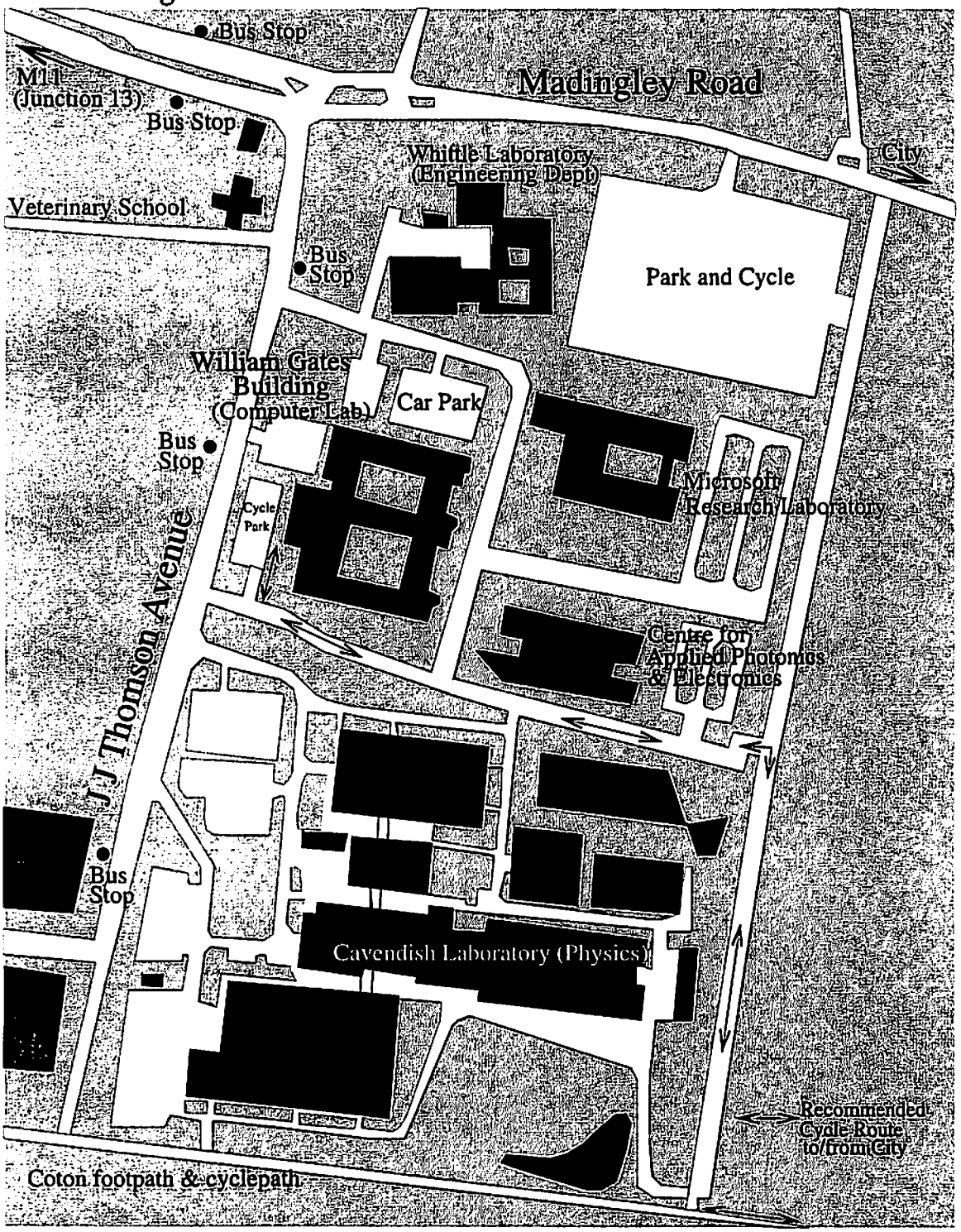
This course introduces a well-known imperative programming language which has seen a remarkable growth in popularity.

Continuously Assessed Work — 10 exercises

The associated continuously assessed work includes 5 exercises on ML and 5 exercises on Java. The 10 exercises have to be completed during the Michaelmas and Lent Terms. These exercises are discussed on a one-to-one basis with local experts who approve the submitted work.


NEW MUSEUMS SITE
A. LIFT TO COMPUTING SERVICE
B. STAIRS TO COCKCROFT LECTURE THEATRE
C. ENTRANCE FOR HOPKINSON ROOM
D.E.F. ENTRANCES TO NEW MUSEUMS SITE
G. ENTRANCE TO PHOENIX TEACHING ROOM & USER AREA
* VEHICLE ENTRANCE TO SITE
RAYLEIGH LECTURE THEATRE
ARTS LECTURE ROOMS
PHOENIX TEACHING ROOM & USER AREA
HOPKINSON LECTURE THEATRE
HEYCOCK LECTURE THEATRE
Lift and stairs to
RECEPTION for Computing Service and Help Desk, Printroom enquiries, Sales
2nd FLOOR
BALFOUR BUILDING
(PWF Macintoshes)
2nd Floor
COCKCROFT FLOOR 4
N
LION YARD MULTI-STOREY CAR PARK
BABBAGE LECTURE THEATRE
COMPUTING SERVICE STORES/DELIVERIES
TITAN TEACHING ROOMS Floor 2
COCKCROFT LECTURE THEATRE
CROWNE PLAZA HOTEL
CORN EXCHANGE STREET
ARTS SCHOOL
PHOTOGRAPHIC & ILLUSTRATION SERVICES
OLD CAVENDISH LABORATORY
MATERIALS SCIENCE
SOCIAL & POLITICAL SCIENCES
AUSTIN BUILDING
MOND BUILDING
SOCIAL ANTHROPOLOGY
PODIUM
ZOOLOGY MUSEUM
PHOENIX BUILDING
HISTORY & PHILOSOPHY OF SCIENCE WHIPPLE MUSEUM
CHEMICAL ENGINEERING
ANTHROPOLOGY
ZOOLOGY LABORATORY
FREE SCHOOL LANE
TRUMPINGTON STREET
BOTOLPH LANE
PEMBROKE STREET
DOWNING STREET
TENNIS COURT ROAD
Downing Place
COCKCROFT FLOOR 4
Bus Stop for the William Gates Building

William Gates Building
Surrounding Area



QUESTIONNAIRE

Part A

Please indicate your previous computing experience in the box below using a scale of 0 to 4. Roughly speaking, 0 means no previous experience and 4 means considerable expertise. Use the following guidelines:

0 means no, or virtually no, previous experience. You may have played one or two computer games but little else.

1 means very little experience. You may have acquired some keyboard skills and may have some word-processing experience. You might have written a program or used a spreadsheet but can't really remember very much about them.

2 means you have written several programs unaided or made substantial use of a spreadsheet. You could instantly use a computer to sum the numbers 1 to 100 and to draw the graph of a trigonometric function.

3 means you have GCSE Computer Science or consider that beneath you. You are an experienced hacker anyway and have tried at least one assembly language.

4 means you have regarded all previous guidelines as descriptions of very feeble computer persons indeed. You have been computing for years and have probably earned money for it.

Box: ☐

Part B

Please circle whichever number below gives the best approximation to the total number of *hours* you have spent at a computer keyboard for any purpose whatsoever except games-playing and extracting information and money from hole-in-the-wall machines. Include any time spent using word processors, spreadsheets, mathematical packages and programming languages. (Note that there are 8760 hours in a year!)

0 1 10 100 1000 10000

Part C

Please circle the option which best describes your first-year course:

CST(+NST) CST(+Maths) CST(+PPS) NST(+CST) PPS(+CST)