

UNIVERSITY OF KENT—CODE OF PRACTICE FOR QUALITY ASSURANCE  
MODULE SPECIFICATION

1. The title of the module: CO650 IT Consultancy Project.
2. The Department which will be responsible for management of the module: Computer Science.
3. The start date of the module: Autumn 2005.
4. The number of students expected to take the module: 20.
5. Modules to be withdrawn on the introduction of this proposed module and consultation with other relevant Departments and Faculties regarding the withdrawal: None.
6. The level of the module (e.g. Certificate [C], Intermediate [I], Honours [H] or Postgraduate [M]): Honours [H].
7. The number of credits which the module represents: 30.
8. Which term(s) the module is to be taught in (or other teaching pattern): Autumn and Spring.
9. Prerequisite and co-requisite modules:

The CO534 IT Consultancy Methods module is a prerequisite. It also requires a general awareness of computing technology, as would be gained by completing Stage 2 of a computing related programme.

Students will not be permitted to combine this module with the CO645 IT Consultancy Practice 2 module.

Students who have taken the CO535 IT Consultancy Practice 1 module will not be eligible to take this module, but will be eligible for the CO645 IT Consultancy Practice 2 module.

Admission to the module is subject to interview; these interviews normally take place at the end of the Spring Term except for students out on placement.

The maximum number to be admitted to the module, and the required mix of skills, will be determined each year by the Kent IT Clinic (KITC) management according to the commercial prospects at the time, and published in advance of the admission interviews.

The admission interview will seek to determine whether a candidate meets at least one of a number of skills profiles, each skills profile being defined by a set of criteria published in advance. In the event that the number of students meeting at least one skills profile exceeds the number for which KITC has a reasonable prospect of finding work, selection from among those students who meet only oversubscribed skills profiles will be made by ballot.

10. The programmes of study to which the module contributes: CS, BC, CSMS, CoBA, AC joint honours, CSAI, WC, BIT and YI variants.
11. The intended subject-specific learning outcomes and, as appropriate, their relationship to programme learning outcomes:

**S1** Students will be able to formulate and evaluate technical alternatives to meet IT requirements arising from small businesses, including projects which have a medium- or large-scale impact on the processes of the business. This includes issues of integration with existing technology and procedures, maintenance and expansion. Wherever appropriate, this will include consideration of both proprietary and open source solutions. [A4, B1, B3, B4, B8, C2]

- S2** Students will be able to estimate proposed solutions to IT-based problems in small business situations, in respect of both time and cost. Students should be able to do this under supervision for projects of up to medium scale, and with minimal guidance for small-scale projects [B1, B8, D4]
  - S3** Students will be able to present technical and commercial aspects of proposed solutions to IT-based problems to clients, using reasoned argument attuned to the client's level of technical understanding. [B2, C2]
  - S4** Students will have demonstrated an ability to work to tightly-defined cost and timescale budgets, and have gained an understanding of how to respond in a professional manner to changes in client requirements, and other eventualities that raise the prospect of budget overruns. [B2, B6, D2, D5]
  - S5** Students will have gained detailed practical experience in applying selected areas of computing technology to meet the requirements of small enterprises. [A1, A2, A3, B5, C3]
  - S6** Students will have experience of carrying out IT project work in a framework of defined procedures and processes, be able to evaluate that framework critically, and formulate practical proposals to develop that framework so as to achieve a dependably high-quality service in a cost-effective way. [B5, B6, B8, C4, D6]
  - S7** Students will be able to formulate costed plans for the strategic development of an IT consultancy business, and to canvass support for such plans by reasoned argument. [B2, B8, C1, C2, C4, D2]
12. The intended generic learning outcomes and, as appropriate, their relationship to programme learning outcomes:
- G1** Students will be able to explore diverse sources of information to formulate and present technical alternatives to solve a given problem, and to decide between competing solutions within an identified framework of constraints, using criteria of evaluation that they have formulated. [D2, D3]
  - G2** Students will have an understanding of project management in a commercial context, including the ability to assess and manage financial, organisational, and technical risks, and the need to establish and evolve a quality management system. [A4, C2, D5]
  - G3** Students will appreciate how to deal with customers in a consulting role: skills required here include communication, presentation, negotiation and (where conflict arises) conflict resolution. [B2, D1, D2]
  - G4** Students will be able to interact effectively within a team, recognise and support leadership provided by others, and be able to manage conflict in this context. Students will be able spontaneously to seek and make use of advice and feedback. [D1, D5, D6]
  - G5** Students will be able to take responsibility for their own work, including (where applicable) leadership and mentoring provided by them to other team members, and evaluate its strengths and weaknesses. [D1, D5]
  - G6** Students will be confident in the application of their own judgement, including developing their own criteria of evaluation, and be able to challenge received opinion. These capabilities will be manifest both in the students' conduct of their own project work and (where applicable) in leadership provided to other team members. [D1, D5]

13. A synopsis of the curriculum:

Students taking this module will undertake two or (typically) more assignments for the Kent IT Clinic (KITC). Each assignment will be of one of three types:

- Work on one of KITC's contracts with an external client. To the extent that client-funded work allows, every student will be given at least one assignment of this type. Wherever practical, a student will be encouraged to participate in the negotiation and pricing of contracts, under the ultimate supervision of KITC management. For each assignment, the student may work on the assignment individually or as part of a group, as directed by KITC.
- A contribution to the infrastructure of KITC itself. These assignments work in a similar way to external assignments, but with KITC as the client.
- Formulating a costed proposal for the future development of KITC, and presenting reasoned argument in support of the proposal to KITC management, as a candidate for inclusion in KITC's strategic plan for the following academic year. Every student will have at least one assignment of this type.

In suitable cases, and to the extent that numbers allow, a student may also be asked to undertake supervisory or mentoring duties, particularly of students taking the IT Consultancy Practice 1 module. Training will be provided for this.

Each assignment will be carried out under the ultimate supervision of KITC management and in accordance with client requirements, with deliverables defined by negotiation with the client. Alongside the client deliverables, each student will also be required to produce a report on each assignment undertaken; these reports are described below under Assessment Methods. KITC management will also produce a brief evaluation report on the student's contribution following each assignment: these evaluation reports will be made available to the student concerned and his/her academic supervisor.

The assignments to be undertaken by a student will be chosen by KITC. This choice will be driven primarily by commercial considerations, taking into account the individual student's aptitudes and experience. However, so far as possible, students of this module will be given technically more advanced assignments, drawing upon knowledge gained at Stage 2 as well as Stage 1 of a computing degree programme. Students will be expected to complete every assignment—no matter how undemanding it may be technically—with a high degree of professionalism and craftsmanship.

So far as commercial considerations allow, each student will be given a portfolio of assignments that exposes the student to a wide variety of stages in the software lifecycle. Also, KITC will aim to provide each student with a mix of short-timescale and longer-timescale assignments to allow students to smooth their workload over time.

#### 14. Indicative Reading List:

*The BS EN ISO9001:2000 Standard* BSi, ISBN 580368378

John Locke *Open Source Solutions for Small Business Problems* Charles River Media 2004, ISBN 158403203

Efraim Turban et al. *Electronic Commerce: a Managerial Perspective* Prentice Hall 2003, ISBN 131230158

Mark Norris and Steve West *eBusiness Essentials: Technology and Network Requirements for Mobile and Online Markets* John Wiley 2001, ISBN 471521833

Owen Briggs et al. *Cascading Style Sheets: Separating Content from Presentation* APress 2004, ISBN 159059231X

#### 15. Learning and Teaching Methods, including the nature and number of contact hours and the total study hours which will be expected of students, and how these relate to achievement of the intended learning outcomes:

The project constitutes one quarter of the year's work and a student is expected to expend an average of  $1\frac{1}{4}$  days each week on it. However, students undertaking the module must understand that commercial pressures may mean that the load may vary considerably from week to week.

Each student will have an academic supervisor, who has three primary roles:

- To help ensure that, in pursuit of his/her current assignment, the student draws as widely as possible on relevant knowledge and expertise within the Computer Science department.
- To advise the student on the preparation of the per-assignment reports and final report.
- To liaise with KITC management, particularly so as to ensure that the mix of assignments given to a particular student is consistent with the academic objectives of the module.

(It is envisaged that in any academic year there will be a small number of supervisors for the KITC practical modules, with each one supervising several students. This will make it practical to hold regular meetings between the supervisors and KITC management, and help to identify teething troubles with the module.) The academic supervisor will hold meetings with the student as required, with a typical frequency of once every three weeks, and certainly toward the beginning and end of each assignment. Attendance at these meetings is compulsory and is monitored. This is in addition to any assignment-related supervision from within KITC itself.

16. Assessment methods and how these relate to testing achievement of the intended learning outcomes:

As mentioned earlier in the curriculum synopsis, each student will also be required to produce a report, with a defined structure, on each assignment undertaken (in addition to the client deliverables). In these per-assignment reports students will be required critically to evaluate technical, commercial and quality aspects of their work on the assignment, and the contribution of the assignment to the development of the student's skills. Towards the end of the project each student will prepare a poster for public presentation. In addition each student will produce a short final report, in which the student will be invited to reflect on how, and to what extent, their total portfolio of assignments contributed to the course's learning outcomes, and to contribute to the future development of the module by identifying opportunities and/or weaknesses. The skills necessary for the preparation of the per-assignment and final reports will be developed in the prerequisite IT Consultancy Methods module.

All students will be expected to carry out their assignments according to the procedures and processes of KITC, as embodied in KITC's Quality Plan, and to contribute to the further development of the Quality Plan, and this will form an important component of academic evaluation. In particular students (working individually) will be required within their assignment reports to reflect critically on how the Quality Plan bore upon the assignment, and identify:

- areas where new procedures are required;
- areas in which existing procedures need to be made more rigorous;
- areas where existing procedures serve no useful purpose; and
- areas where the objectives of existing procedures could be achieved by more cost-effective and lightweight means.

In each case the student will be required to draft the text of proposed new or revised procedures, expressed in clear and rigorous language.

The module is assessed on the basis of the portfolio of per-assignment reports written by the students, the corresponding evaluation reports by KITC management, the final report, and by a *viva voce* examination. This assessment is carried out by the supervisor in conjunction with

a second examiner drawn from the Department's academic staff, by reference to the learning outcomes specified above. It is intended that examiners will use the final report to obtain an overview of whether and to what extent the learning outcomes have been realised, and use the other documents and the *viva* to corroborate their findings.

The module will be assessed as 100% project.

In the event of failure no alternative assessment will be available. Credit can only be retrieved by repeating the module.

17. Implications for learning resources, including staff, library, IT and space:

The IT Clinic requires a full-time coordinator, and requires space, equipment and other facilities for its work: it is the intention that the Clinic should be self-financing from its client revenues. In addition, academic staff are required to provide supervisors and second examiners. We expect the academic supervision load per student to be comparable to that for CO600 or CO620.

18. A statement confirming that, as far as can be reasonably anticipated, the curriculum, learning and teaching methods and forms of assessment do not present any non-justifiable disadvantage to students with disabilities:

We confirm, as far as can reasonably be anticipated, that the curriculum, learning and teaching methods only present justifiable disadvantages to students with disabilities.

**Statement by the Director of Learning and Teaching:** "I confirm I have been consulted on the above module proposal and have given advice on the correct procedures and required content of module proposals."

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Director of Learning and Teaching

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Date

**Statement by the Head of Department:** "I confirm that the Department has approved the introduction of the module and will be responsible for its resourcing."

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Head of Department

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Date

Revised: 26 February 2007