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# School of Computing, Mathematical and Information Sciences

# CI301 The Individual Project

# Student Handbook\*2010/2011

# Project coordinators: Mr Richard Byrne & Ms Jane Challenger Gillitt

September 2010

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**1. THE INDIVIDUAL PROJECT – GETTING STARTED**

This handbook has been written to set out the formal requirements for the project, as well as to offer guidance about managing your project and presenting it in the ***Report to the Examiners*** and at ***Poster Day***. Here you will find all the information that you need about the project requirements, the various deadlines that you have to meet and how your project will be assessed.

A common problem encountered by final year students with their project has a very simple cause – starting late. The project is equivalent to ***four***modules – two in semester 1 and two in semester 2 – and you will need to put in a substantial amount of work during both semesters if you are to do yourself justice. Students who leave things to the last moment invariably suffer the consequences – they present a poor piece of work, which attracts a low mark, or even fails. The project schedule, with its deliverables and hand in dates, is designed to ensure that **you complete a substantial amount of the preliminary research for your project before the Christmas break.**

If your project fails you will not be entitled to an Honours degree. It is therefore very important that you manage the whole project efficiently and effectively. The normal rules regarding extensions to deadlines and Mitigating Circumstances apply to the project just as they do to your other assessments.

**1.1 Project coordinators**

***CI301 The Individual Project*** is undertaken by students in the School of Computing, Mathematical and Information Sciences studying the Computing awards. The full module specification can be found at the CI301 space on ***studentcentral***. There are two members of staff who coordinate the project and its assessment:

* Mr Richard Byrne is project coordinator for students studying BSc (Hons) Computer Science, BSc (Hons) Computer Science (Games), BSc (Hons) Software Engineering, BSc (Hons) Interactive Computing and BSc (Hons) Internet Computing (at UCH).

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* Ms Jane Challenger Gillitt is project coordinator for students studying BA (Hons) Business Information Systems, BSc (Hons) Business Software Development, BSc (Hons) Digital Media Development, BA (Hons) Digital Media and BSc (Hons) Internet Business Computing.

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During the project you will be working closely with a member of staff who will be your supervisor, but you are also welcome to contact the project coordinators if you have questions to ask. For students at University Centre Hastings, Kath Lampard will act as your local point of contact for information about the project.

1.2 The purpose of the project

The final year project requires you to perform an extensive piece of individual work on a specific topic demonstrably related to your award, under the supervision of a member of staff. The project has several aims:

* it enables you to pursue your studies in a relevant area which interests you, so that you become considerably more expert about your chosen project area;
* it provides a showcase in which you can demonstrate your ability to use and integrate significant areas of the knowledge, intellectual skills and practical abilities that you have acquired during your course and develop them further;
* finally, although you will have a supervisor to turn to for advice and guidance, the success of your project depends on your ability to plan and carry out work independently, over a lengthy period. The project aims to foster this capacity for responsible, self-directed work of high quality, which is one of the qualities of an honours graduate.

Projects are worth four modules, *i.e.* one third of your final year marks. The ‘product’ element is assessed on what you actually produce, *e.g.* software, a design, or a report. A further element of the project assesses the processes of planning and researching your project, your own view of how it turns out and how you handled the work involved.

Project modules are assessed by two examiners. One is your project supervisor and the other, known as the Second Reader, is another member of staff. Further examiners will be appointed to assess your project where this is thought necessary, for example if these two examiners do not agree about the mark to award.

1.3 Choosing a project and supervisor

A list of the staff who can supervise projects is available on the CI301 space on ***studentcentral*** under the ‘Supervisors’ link. Here you will find staff contact details, a list of their individual interests and in some cases specific suggestions for projects they would like to supervise. The list applies to all computing degrees, although the project you choose to do should be relevant to your individual award. Students can approach any potential supervisor on any topic which the course has equipped them to undertake - personal interest and commitment is a vital factor when choosing a project.

It is a requirement of the project that it should build on the modules you have already studied, or are studying, in other parts of your course. You will be required to state which modules have a bearing on your proposed project and indicate in what ways they are relevant to the particular project you have chosen. You should include this in your ***Planning and Research Report*** and in the introductory section of the ***Report to the Examiners***, where typically you will outline the project and why you chose it.

The responsibility for identifying a suitable project and finding a supervisor is yours in the first instance. Staff can only supervise a certain number of student projects and will agree to supervise students on a ‘first come, first served’ basis so you are advised to find one without delay – as soon as the Autumn term starts, if possible. If you have not found a suitable member of staff to supervise your project by late October and informed the project coordinators (Richard Byrne or Jane Challenger Gillitt) they will assign you a supervisor. Once you have found a supervisor you can start to hold regular meetings with them – another advantage of sorting this out early.

Most students decide their own project topic and identify a supervisor who they think would be interested and able to support it. Any topic that you can demonstrate is related to the modules you have studied in your course should be acceptable providing that a suitable supervisor can be found; the equipment needed for the project is available; the proposed project is suitable in size and scope, and sufficiently demanding to be worthy of an honours degree. Your potential supervisor will be able to help you judge this. If in doubt refer to one of the project coordinators.

Your work experience may well have suggested potential project topics to you and your contacts with your past employer may be valuable in connection with this. You can carry out your project in association with an outside customer, as long as the following conditions are met:

* you can find a supervisor within the School of CMIS
* the University is not responsible for any extra costs you incur
* your project is acceptable in terms of its educational content and level
* you provide a letter of support from the outside organisation to assure us that the resources, data, access to staff, or equipment, or whatever your project requires will be made available for the duration of the project. [Note that this does not establish any legal obligation between the University and the outside organisation, and is only to satisfy us of their cooperation. Please make sure this is clear to any outside organisation with which you have dealings.]

Whatever your field of interest you will need to consider the availability of hardware and software resources, whether within the School of CMISor elsewhere, as you should not base your project on the use of equipment that is not readily available or affordable.

You will certainly have to learn new things while undertaking the project, but your project work ought not to focus too much on acquiring completely new skills. For example, it should be obvious that if you set yourself the goal of learning a new programming language from scratch you will probably produce a hurried and amateurish end product. It is better to use the project to pull together your existing knowledge, extend it (and perhaps apply it in new ways) and thus demonstrate your professional competence.

1.4 The key to a successful project

Normally there will be a practical element involved in your project. This is one of the features that will differentiate the project from most other aspects of your final year's work. We encourage this approach to projects. It is *not* a requirement that the project has to involve the production of any actual hardware or software, but a practical element is often the best way to show your grasp of subject matter. Your project must demonstrate the necessary technical skills for the degree you are taking and all but the most theoretical projects are likely to be enhanced by a 'doing' element. As an example, a survey of available software would be much improved if it involved you in devising a series of practical benchmarks, justifying your selection and evaluating the software against them - this being the sort of activity you just do not have time for in other parts of your course.

On the other hand it is important to realise that the project is not justa practical activity. Some students in the past have persuaded themselves that the development of a product was all that their project was about, and have given too little thought to the context of and the justification for their product. **From the examiners' point of view, the process of research, investigation, thinking, learning and reviewing progress is just as important as the final state of any practical deliverable.**We do not want to suggest that an incomplete product is necessarily as acceptable as a complete product, but we want to emphasise that a product that has to be submitted in a less than perfect state will not automatically attract a low mark. Your examiners will recognise that some projects are inherently more difficult or complicated than others and will not expect a difficult or highly original project to be carried out faultlessly. Conversely, a 'routine' project, such as one involving the utilisation of standard application software to perform a conventional business task, is perfectly acceptable and just as capable of attracting first class marks as a 'really difficult' project. However, the criteria used to judge its quality will be different: your examiners will be more concerned with the ‘professionalism’ of the project, rather than the technical difficulty or complexity.

A good project is not necessarily one in which everything works, or even one where everything has gone according to plan, which rarely happens. It is one where the student shows a good grasp of the general context of his or her topic; explores a number of avenues and chooses an intelligent approach to the topic; meets difficulties where they arise in a sensible way; and reaches an acceptable outcome by the end of the project period, having clearly learned a good deal in the process. A final point to make here is that your project will be judged to a considerable extent by your written account of it in the ***Report to the Examiners***. The external examiners, who will look at all the projects, will *only* see what you have written. Therefore you should not underestimate the importance of the writing-up process. Discuss what is needed with your supervisor: you will be judged not only by what you have done, but by how effectively you can communicate this to the examiners.

Your project is expected to be your own work, although we recognise that some projects may build on or make use of the work of others. All submitted documentation must make it clear whenever any portion of the work is attributable to someone other than yourself. This also covers such things as the use of proprietary software, methods and tools; material from code libraries; or the use of assets such as audio files, images and graphics, which have been created by a third party.

It is important to note the consequences of not focusing sufficiently on your final year project. First, the quality of your project will affect the class of your degree - or even whether your degree gets an honours classification. Second, the British Computer Society (BCS) requires a final year project to be passed at the first attempt in order for you to gain membership of the BCS, which is a major stepping stone to becoming a Certified Engineer or Certified Information Professional. Passing your project is important if you want to acquire professional status in this country or the European Community. The BCS has published general criteria for honours degree projects that are well worth taking account of at the identification and planning stage and as a checklist later on. Any professional, honours-standard project work will demonstrate:

* clear identification of the problem
* a clear statement of the project’s aims and objectives
* background research and contextual investigation as needed
* awareness of the relevant social, legal, ethical and professional implications
* identification of the relevant stages of the life cycle undertaken
* the use of development tools and testing wherever appropriate
* evaluation of proposed or actual solutions against feasible alternatives
* critical appraisal covering both product and process.

We hope you will find your project work both interesting and personally rewarding. Your supervisor will give you support, but if you have problems, particularly in the initial phase of identifying a suitable project and supervisor, the project coordinators are also there to help.

2. TIMETABLE, Deliverables and assessMENT

**2.1 The Project timetable 2010 – 2011**

|  |  |
| --- | --- |
| **Deadline** | **Activity** |
| 11:00-11:50 Thursday, September 30 | Level 3 project briefing by the project coordinators in 301 |
| Then … | … identify your project area and find a supervisor |
| 08:15 Thursday, October 21 | Submit *one copy* of your ***Project Proposal*** to the School Office (on the form in **Appendix A**, which can also be downloaded from ***studentcentral***) |
| Then … | … the project coordinators will confirm supervisors and allocate second readers. Supervisors will be appointed if students cannot find one themselves, by early November. |
| 08:15 Thursday, November 11 | Submit *two copies* of the ***Planning and Research Report*** to the School Office |
| November 15 onwards | Project ***Vivas*** take place – you should contact your supervisor and second reader as soon as you have handed in the ***Planning and Research Report*** to arrange a date |
| By Friday, December 10 | All vivas completed |
| 08:15 Thursday, April 28 | Hand in *two copies* of the final deliverables |
| Wednesday, May 4 and 11 | Demonstration and poster days |
|  | Hand in days and time may be subject to change – please check the announcements on ***studentcentral*** |

**2.2 Semester 1 – intermediate deliverables and viva**

There are three deadlines that you have to meet in semester 1. Please note that these assessable components of the project will be awarded a Pass or Fail grade. Failure to hand in the deliverables by the deadline through the School Office, or to attend a viva by the set date will automatically result in a Fail grade. This will not necessarily mean that you will fail your project, but the marks will be taken into account as indicators of performance when awarding the final project grade. If you cannot meet the hand in date for an acceptable reason you should ask your award leader for an extension in the normal way.

* The***Project Proposal*** - this is a single-page form which lets us know what you aim to do and tells us who has agreed to supervise your project (see **Appendix A**). The form can be downloaded from the CI301 space on ***studentcentral*** and it should be signed by your supervisor: only *one copy* is required. If you have not managed to find a supervisor by this stage you should ask one of the project coordinators to sign the form, but still hand it in by the deadline. The project coordinators have the right to veto a project proposal at this stage, or to require major modifications, if they think the project is unsuitable. Once we have received the ***Project Proposals*** we will confirm the supervisors, arrange second readers and allocate supervisors to projects where necessary.
* The ***Planning and Research Report*** - this is a substantial document which should include the following things:
* the aims and objectives of your project
* a description of what you are planning to investigate, analyse, develop *etc*.
* a specification of the stages or deliverables this can be broken down into
* a report on your background research with an annotated bibliography
* a schedule of activities
* a risk analysis of potential problems

**The research element:** by this stage you should have done about 100 hours work on your project and have carried out a substantial amount of the background research or a preliminary investigation. In the report you should describe and discuss the research that you have accomplished to date and will continue to undertake. We suggest you do this through an annotated bibliography: resources to help you with referencing and citation can be found on the CI301 space on ***studentcentral*** under the ‘Resources’ link.

Please ensure that you hand in *two copies* of this report.

* The ***Viva*** – once you have handed in your ***Planning and Research Report*** you should arrange a viva (an oral examination) with your supervisor and second reader, which should have taken place by December 11th. The examiners – your supervisor and second reader – will discuss your ***Planning and Research Report*** with you at the viva; they (or you) may want to suggest changes at this stage. They will also want to discuss the objectives you have set out for your project, which are likely to be used as criteria for evaluating the completed project and allocating marks.

**2.3 Semester 2 – the final deliverables, demonstration and poster session**

* The ***Product*** - this may be a written report, survey or similar document, or it may be a software or hardware product, together with whatever documentation is necessary for the examiners to evaluate the product. Code should normally be submitted on an accompanying disk rather than as listings, unless your examiners require it to be in a different format. It is difficult to be specific about the amount of product documentation that should be provided. Please note that the majority of examiners are not happy when asked to read *unnecessarily* long documents, which are dedicated to being absolutely thorough rather than informative. It is vital that the contents and the presentation should be discussed with your supervisor. Please hand in *two copies* of all the Product deliverables.
* The ***Project Log*** – this is a day-by-day work diary kept by you as the project is carried out. The log is kept mainly for your benefit as it is useful not only as a record of activity, but also as a record of your reflections on the project as it happens, as a notepad when ideas occur and as a general store of working documents which do not need to go into the final report. The log must be handed at the end of the project; it may be hand written and only *one copy* is necessary.
* The***Report to the Examiners***  - this is sometimes called the ‘process report’ as it is where you discuss the process by which you carried out your project, which is a very important aspect of what is being examined. This report should therefore not be skimped or approached as an afterthought. In it you should critically evaluate every significant area of your project work, including your choice of project and how it fits in with the modules you have studied; your background research and the way it has influenced your project; your methodology and planning; the progress you made, problems encountered, their solutions and the lessons learned; aspects of your work you are particularly proud of; further areas for possible investigations or enhancements; and, finally, an assessment of the success or failure of the project as a whole. A good report will address the issues itemised in Section 1.4 (see page 5). In this report you will want to include your original project plan, together with any later versions or a discussion of any necessary changes to the plan. It is unlikely that a report of less than 2000 words will do justice to this aspect of your project. Only exceptionally should this report exceed 5000 words (*e.g.* where the process is for any reason the most significant part of your project). This report is an assessable component of the project and is one the examiners will pay close attention to. Please hand in *two copies*. **All reports MUST contain a first page with student name, student number, exit award for which you are registered and a short title**.
* The ***demonstration and poster session*** – the final requirement of the project is that you should present your work to your examiners and to a wider audience. We will arrange two ***Poster Days*** in the School’s IT Suite where you can demonstrate your application and present it to staff and fellow students. All projects, but particularly those which have not resulted in a software product, can also be presented by a series of posters, which will be displayed in the IT Suite. Guidelines for ***Poster Day***, including how to present your work in a poster (which is frequently the means by which groundbreaking research is presented at computing conferences), can be found on the ‘Resources’ section of the CI301 space on ***studentcentral***. Your participation in one of these days is compulsory and will count towards your mark, unless a special attendance arrangement has been made.

These arrangements may have to be varied occasionally for part-time students, who should consult their supervisor or a project coordinator.

**2.4 Assessment**

The final deliverables are assessed together. The module does not specify relative weightings for the different deliverables: this is for the examining team to decide in particular cases. However, it may help you to know that:

* both the product and the process elements must be attempted and be of acceptable quality to achieve a pass
* there must be evidence of appropriate research
* a very competent evaluation (with hindsight) of the project, its planning and execution can help to compensate for a weak product. The original objectives you set out for your project, in the ***Planning and Research Report***, may be used as criteria for evaluating the completed project.
* weak performance in the evaluation of product and process will result in a grade no higher than B, even if the product is of an exceptional standard.
* a log which has evidently been manufactured to be handed in rather than having been properly kept will result in a lower grade

Please note that TWO copies of all deliverables must be submitted. The only exceptions are the *Project Proposal* and the *Project Log*, where this has been hand-written. One copy will be retained for educational purposes. While we endeavour to return one copy of your work to you when the examination process is complete, this is not always possible. Students are therefore strongly advised to keep a backup copy for themselves.

In line with the professional approach required of project work documents of any significant length should have a table of contents, a structured format and be properly paginated. The documentation submitted should be in a format agreed with your supervisor and should normally be in A4 format. We ask you to present all documents in uniform binding with your name, course and the project title on all covers and, where possible, on the spine as well. All disks should be properly labelled, enclosed in suitable wallets or sleeves, and be accompanied by suitable instructions for their use. It is important that you check that your examiners will be able to read or run any disks on their machines before you submit them.

**Referrals:** just as with other modules a project may be referred if the work fails to meet the criteria or standard required for a Pass, but is not completely irretrievable. If your work is referred your examiners will give you a clear specification of the elements that do not meet the required standard, or which may have been missed out completely. You will then be required to redo your project over the Summer vacation and complete the work that is required to bring the grade up to a Pass. Please note that your supervisor may not be available over the Summer to provide guidance and, as with all referrals, we cannot undertake to support your work over this period. If you need to clarify the additional work that you have been asked to do you should therefore contact your supervisor, or another member of staff, as soon as you are notified about the referral. The submission date for referral work is usually towards the end of August: you will also be required to attend a viva with your supervisor and/or second reader during August exam week.

A copy of the assessment form and criteria used by the examiners when marking your work is included in **Appendix B**.

The assessment of projects involves more than one assessor, and is subject to both internal and external moderation. The mark awarded for any project, and all reports written by the Supervisor and Second Reader or by any other Examiner, are confidential. Under no circumstances will the Project Supervisor or Second Reader discuss the contents of these reports, and no indication of the grade awarded for the project can be given until the relevant Examination Boards have met. The marks awarded for these modules will be disclosed to the student on his or her final transcript following the decision of the relevant Examination Boards.

**3. SOCIAL, LEGAL, ETHICAL AND PROFESSIONAL ISSUES**

This module has a vital role in equipping you for your chosen profession when you leave University. It is therefore important that you can demonstrate an awareness of and engagement with the **social, legal, ethical and professional** issues that are relevant to your project. This is likely to be particularly the case with projects that involve work in a real-world setting, but every project will raise its own specific set of issues. These may be, for example, the social impact of a new software application, or information systems project, on the work carried out by members of an organisation; legal requirements such as the Data Protection Act, copyright and intellectual property law; the ethics of carrying out research on human subjects, or ethical issues that may be raised by an application such as a public web site; or the conventions of good professional practice required in activities such as usability testing, use of software libraries, requirements investigation *etc*. Your examiners will be looking for a critical appreciation of the issues raised by your project, which you should discuss in the ***Report to the Examiners.***

There are some particular things that you need to take note of:

* **Intellectual property:** The following is a statement explaining the right the University claims over student work, including projects:

The university requires access to intellectual property generated by students. As a condition of joining the university, students grant the university the right to use their work for academic purposes, including assessment and research, and for purposes relating to the administration of the university, including quality assurance and publicity.

It is particularly important that the above be brought to the attention of any third party supporting your project.

It should also be noted that materials included in your project originating from the Internet are subject to the same proprietary rights as those originating from any other source (typically paper based sources).

* **Copyright** material must not be used in a project if there is any intention to use that material for commercial purposes following the completion of the project without obtaining explicit permission from the owner.
* We advise that copyright material should not be used without obtaining permission from the owner in writing.
* We accept research projects that contain copyright material as long as the source/origin of any non-original material is clearly identified within the project documentation and any software that utilizes the copyright material.
* **Research ethics:** all research involving human subjects needs to be governed by ethical good practice, as well as relevant legislation such as the Data Protection Act. In particular you will need to safeguard the anonymity and confidentiality of your informants. You must ensure that they consent to participating in your research, having being fully informed about its purpose and how you intend to make use of the data. You should discuss this with your supervisor, but the majority of student projects should not raise difficult ethical problems. An exception to this is any project which involves carrying out research with children (such as a software application for a school), as research involving minors is now governed by a tight set of ethical guidelines. A project which raises particularly problematic ethical issues may have to be referred to one of the University Ethics Committees – in which case you should do this without delay, as soon as you formulate your project proposal. Your supervisor can advise you how to do this, as can the project coordinators.
* **Plagiarism:** It has always been possible to copy information from other sources into your work and pass it off as your own. However, with the rapid expansion of the internet and other digital media, this process has become much easier. Whenever cases of plagiarism have been discovered, in any module, there have been serious implications for the student resulting, as a minimum punishment, in the failure of the module. If this occurs on this module it will inevitably lead to a failure to achieve an honours degree.

The project raises some specific issues of plagiarism as it is more than a written piece of work. If you use any assets that you have not created yourself, such as sound recordings, images or modules of code from software libraries, they can only be used with the owners’ permission. Authorship should be clearly and correctly credited, as should the origins of any open source software that you may use. The use of any content from public web sites in a software application, without permission or crediting, constitutes plagiarism – exactly as with written work.

In the written deliverables of the project, such as the ***Planning and Research Report*** or the ***Report to the Examiners***, the normal rules on plagiarism apply. Small pieces of the work of others may be used and quoted; in all cases they must be correctly acknowledged and cited, according to standard academic practice. Resources to help with referencing and citation can be found on the CI301 space on ***studentcentral***.

In Appendix C you will find the extract on plagiarism reproduced, with permission, from section 10 of chapter 12, of the University of Brighton *Student Handbook*.

Appropriate Content:

**4. LEARNING RESOURCES FOR THE PROJECT**

On the CI301 space on ***studentcentral***, under the ‘Resources’ link, you will find links, references and downloadable content to help you with many aspects of the project. These include:

* guidelines on bibliographies, citation and the Harvard referencing standard
* links to the University ethics committee guidelines
* references and links to material on research methods
* templates for documents such as ‘informed consent’ forms and technical reports
* information about how to present your work in a poster session
* references to books about project research in computing and information systems

The space also includes a list of staff supervisors with their interests and links to documents relevant to the project such as the module specification, this handbook, the ***Project Proposal*** form, the assessment criteria, the project schedule and deadlines. Updates and announcements will be posted on ***studentcentral***, which will be our main channel of communication for the module.

September, 2010