Anglia Ruskin University

Cambridge Chelmsford Peterborough

Faculty of Science & Technology

Software Engineering

Department: Computing and Technology

Module Code: MOD003263

Level: 5

Academic Year: 2014/15
Semester/Trimester: 1

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1. Key Information

Module Title: Software Engineering

Module Leader: Dr. Cristina Luca
Campus / Building / Room: Cambridge / Bryant / Bry110
Extension:
Email: cristina.luca@anglia.ac.uk

Module Tutors:

Location of Delivery	Pathway	Module Tutor	Contact
Cambridge	**BSc Computer Science**	**Dr. Cristina Luca**	cristina.luca@anglia.ac.uk
Peterborough	**BSc Computer Science**	**Chris Jakeman**	Chris.Jakeman@peterborough.ac.uk
College of West Anglia	**BSc Computer Science**	**Nigel Edwards**	NEDWARDS @col-westanglia.ac.uk

Every module has a Module Definition Form (MDF) which is the officially validated record of the module. You can access the MDF for this module in three ways via:

- the Virtual Learning Environment (VLE)
- the My.Anglia Module Catalogue at www.anglia.ac.uk/modulecatalogue
- Anglia Ruskin's module search engine facility at www.anglia.ac.uk/modules

All modules delivered by Anglia Ruskin University at its main campuses in the UK and at Associate Colleges throughout the UK and overseas are governed by the *Academic Regulations*. You can view these at www.anglia.ac.uk/academicregs. An extract of the *Academic Regulations*, known as the *Assessment Regulations*, is available at this website too (all new students will have received a printed copy as part of their welcome pack).

In the unlikely event of any discrepancy between the *Academic Regulations* and any other publication, including this module guide, the *Academic Regulations*, as the definitive document, take precedence over all other publications and will be applied in all cases.

2. Introduction to the Module

Software Engineering is an engineering discipline that applies the principles of computer science and mathematics to achieving cost-effective solutions to software problems. The aim of this module is to give to students a real-world experience in software engineering.

The number, size, and application domains of computer applications have grown to the extent that many organisations and individuals depend on the effectiveness of software development. Therefore software products have to be efficient, of very good quality and to help us to be more efficient and productive.

This module will provide students with the intellectual and practical tools required to be able to design, implement and test software systems.

The module is built on material covered in Fundamentals of Design and Introduction to Programming, and will cover all the phases of the life cycle by taking case studies and building real software applications based on them.

The students will use computer-aided software engineering (CASE) tools to study topics including analysis and design in UML and managing the OO software development process.

The assessment is coursework based and involves working in teams on a specific project that will design and develop a software application. Students have to demonstrate that they are able to work in groups to create an application from a case study going through the whole software lifecycle.

3. Learning Outcomes and Outline Delivery

1. Apply and critically appraise software engineering approaches to developing software applications.
2. Understand key object-oriented design principles.
3. Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for problem identification and analysis, software design, implementation, verification, and documentation.
4. Work effectively as part of a team to design, develop and deliver quality software artefacts.
5. Use a software development environment supporting the development of computer programs to develop a software application.

Wk	**Lecture**
1	Introduction, MDF, Module Guide, Assessment
2-4	Review of the software requirements and design, and OOP concepts
5-8	Software Development (OOP)
9	Software Validation and Verification
10	Software Maintenance
11	Software Management
12	Review of the Software Life Cycle

4. Assessment

Assessment Information Sheet(s):

<table>
<tr><td>DESCRIPTIVE TITLE</td><td colspan="3">Group project</td><td>Assessment Element</td><td>010</td></tr>
<tr><td>DETAILS ABOUT THE ASSESSMENT</td><td colspan="5">The assessment is coursework based and involves working in teams on a specific project that will design and develop a software application. Students have to demonstrate that they are able to work in groups to create an application from a case study going through the whole software lifecycle.

The assessment consists in the following:
- your report (see below a description of what it has to contain), your own logbook and a CD/memory stick with the whole application have to be submitted to iCentre by Friday week 12 at 2pm. Value: 85% of 100
- Homework element (10 in total, one in each week between weeks 2-11) Value: 10% of 100
You will accomplish the weekly homework tasks and demonstrate them in your timetabled lab session to your tutor. 1 mark each.
- Presentation of final solution to your tutor in your timetabled lab session from week 12 Value: 5% of 100
All Team Members to participate. Each team member gets a maximum of 5%.</td></tr>
<tr><td colspan="2">Learning Outcomes</td><td>1 - 5</td><td>Weighting</td><td>100%</td><td>Marking Approach</td><td>Fine Grade</td></tr>
<tr><td>WHAT IS BEING SUBMITTED</td><td colspan="4">1) A report including:
Problem Definition Document and Description of the Software Requirements Value: 10% of 100
Case Study Description
Current System Description
Project Aims
Project Plan (to include but not limited to:)
Introduction
Resources required to complete project
Management control – project schedule (Detailed Gantt Chart)
Configuration management – system change-over method

Software Design Value: 20 % of 100

Software Implementation Documentation Value: 30% of 100

Test plan Value: 15% of 100

Plan of the Software Maintenance Value: 5% of 100

Evidence (i.e. a couple of screenshots of the history) of a Source Control System used Value: 5% of 100
Any free Source Control can be used (i.e GIT, CVS, etc)

2) The project logbook

3) A CD/memory stick with the whole application.</td><td>Qualifying Mark</td><td>40%</td></tr>
</table>

SUBMISSION	Date:	19/12/2014	Time:	14:00	Location	iCentre
MARKER(S):	Dr. Cristina Luca					
MODERATOR(S):	Dr. George Wilson					
FEEDBACK	By Date:		Where to get your feedback		Email	

The task for the assignment is the following:
The manager of FindAName farm would like to have an electronic system that covers all the aspects of his day to day administrative tasks including:

- Storing in a database:
  - the different types of crops they cultivate their fields with along with:
    - Sawing times and methods used
    - Fertilisers to be used depending on the crop's requirements and the periods when the crop has to be treated. Sometimes a crop may need a special one off treatment.
    - Harvest time and methods
    - Storage type and min/max temperature needed.
  - The labour for sawing/planting, treating the crops and harvesting
  - The Vehicles necessary for harvesting (including taking the harvest to the storage space)
  - The Containers for storing the harvest
- Displaying different reports such as:
  - As a manager I want to know all the types of crop currently in cultivation
  - As a labourer I want to know the amount and type fertiliser I need to use this week for the crops assigned to me
  - As a manager I need to know how much fertiliser is required to be in stock for a given week's planned works.
  - As a manager I need to know the harvest timetable
  - As a labourer I want to know the storage available
  - As a manager I need to know the storage used and available
  - As a manager I need to know the labour needed for harvesting
  - As a manager I want to know the vehicles necessary for transporting the harvest.
  - As a manager I need to know the number and types of containers necessary for storing the harvest.
  - As a manager I need to know the stock.
- The management of the distribution. You might consider an on-site farm shop and the wholesale. A list of potential buyers has to be stored along with their details and requirements in terms of quantities and times.

4.1 Submission

All coursework assignments and other forms of assessment must be submitted by the published deadline which is detailed above. It is your responsibility to know when work is due to be submitted – ignorance of the deadline date will not be accepted as a reason for late or non-submission.

All student work which contributes to the eventual outcome of the module (ie: if it determines whether you will pass or fail the module and counts towards the mark you achieve for the module) is submitted via the iCentre using the formal submission sheet. Academic staff CANNOT accept work directly from you.

If you decide to submit your work to the iCentre by post, it must arrive by midday on the due date. If you elect to post your work, you do so at your own risk and you must ensure that sufficient time is provided for your work to arrive at the iCentre. Posting your work the day before a deadline, albeit by first class post, is extremely risky and not advised.

Any late work (submitted in person or by post) will NOT be accepted and a mark of zero will be awarded for the assessment task in question.

You are requested to keep a copy of your work.

Feedback on your work

You are entitled to feedback on your performance for all your assessed work. For all assessment tasks which are not examinations, this is provided by a member of academic staff completing the assignment coversheet on which your mark and feedback will relate to the achievement of the module's intended learning outcomes and the assessment criteria you were given for the task when it was first issued. This feedback may be completed electronically and sent directly to your Anglia Ruskin e-mail account.

Examination scripts are retained by Anglia Ruskin and are not returned to students. However, you are entitled to feedback on your performance in an examination and may request a meeting with the Module Leader or Tutor to see your examination script and to discuss your performance.

Anglia Ruskin is committed to providing you with feedback on all assessed work within 20 working days of the submission deadline or the date of an examination. This is extended to 30 days for feedback for a Major Project module (please note that working days excludes those days when Anglia Ruskin University is officially closed; eg: between Christmas and New Year). Personal tutors will offer to read feedback from several modules and help you to address any common themes that may be emerging.

At the main Anglia Ruskin University campuses, each Faculty will publish details of the arrangement for the return of your assessed work (eg: a marked essay or case study etc.). Any work which is not collected by you from the Faculty within this timeframe is returned to the iCentres from where you can subsequently collect it. The iCentres retain student work for a specified period prior to its disposal.

On occasion, you will receive feedback and marks for pieces of work that you completed in the earlier stages of the module. We provide you with this feedback as part of the learning experience and to help you prepare for other assessment tasks that you have still to complete. It is important to note that, in these cases, the marks for these pieces of work are unconfirmed. This means that, potentially, marks can change, in either direction.

Marks for modules and individual pieces of work become confirmed on the Dates for the Official Publication of Results, which can be checked at www.anglia.ac.uk/results.

5. Learning Resources

5.1. Library

All the Reading/Resource Lists
http://readinglists.anglia.ac.uk/index.html

Library Contact

Faculty of Science and Technology
libteam.fst@anglia.ac.uk

Reading List Template – Anglia Ruskin University Library

Resources	Notes
Key text Sommerville, I, *2011. Software Engineering (9th Edition)* Addison Wesley, ISBN 978-0137035151	*A useful background textbook by a key author.*
Books McConnell, S., 2004, *Code Complete: A Practical Handbook of Software Construction*, 2nd Edition, Microsoft Press. ISBN 978-0735619678 Dennis, A., Wixom, B.H. & Tegarden, D. 2010. *Systems analysis and design with UML: an object-oriented approach.* Third Edition. Wiley. ISBN: 9780470400302 Booch, G., et al., 2007. *Object-Oriented Analysis and Design with Applications.* Third Edition, Pearson Education, UK, ISBN 9780201895513 Skeet, J. 2010. *C# in depth.* Second Edition. Manning Publications. ISBN: 978-1935182474 Albahari, J., Albahari, B. 2010, *C# in a Nutshell: The Definitive Reference.* Fourth Edition. O'Reilly Media. ISBN: 978-0596800956	
Additional notes on this reading list **Link to the University Library catalogue and Digital Library http://libweb.anglia.ac.uk/** **Link to Harvard Referencing guide http://libweb.anglia.ac.uk/referencing/harvard.htm**	

6. How is My Work Marked?

After you have handed your work in or you have completed an examination, Anglia Ruskin undertakes a series of activities to assure that our marking processes are comparable with those employed at other universities in the UK and that your work has been marked fairly, honestly and consistently. These include:

- **Anonymous marking –** your name is not attached to your work so, at the point of marking, the lecturer does not know whose work he/she is considering. When you undertake an assessment task where your identity is known (eg: a presentation or Major Project), it is marked by more than one lecturer (known as double marking)

- **Internal moderation –** a sample of all work for each assessment task in each module is moderated by other Anglia Ruskin staff to check the standards and consistency of the marking

- **External moderation –** a sample of student work for all modules is moderated by external examiners – experienced academic staff from other universities (and sometimes practitioners who represent relevant professions) - who scrutinise your work and provide Anglia Ruskin academic staff with feedback, advice and assurance that the marking of your work is comparable to that in other UK universities. Many of Anglia Ruskin's staff act as external examiners at other universities.

- **Departmental Assessment Panel (DAP) –** performance by all students on all modules is discussed and approved at the appropriate DAPs which are attended by all relevant Module Leaders and external examiners. Anglia Ruskin has over 25 DAPs to cover all the different subjects we teach.

This module falls within the remit of the Computing and Technology DAP.

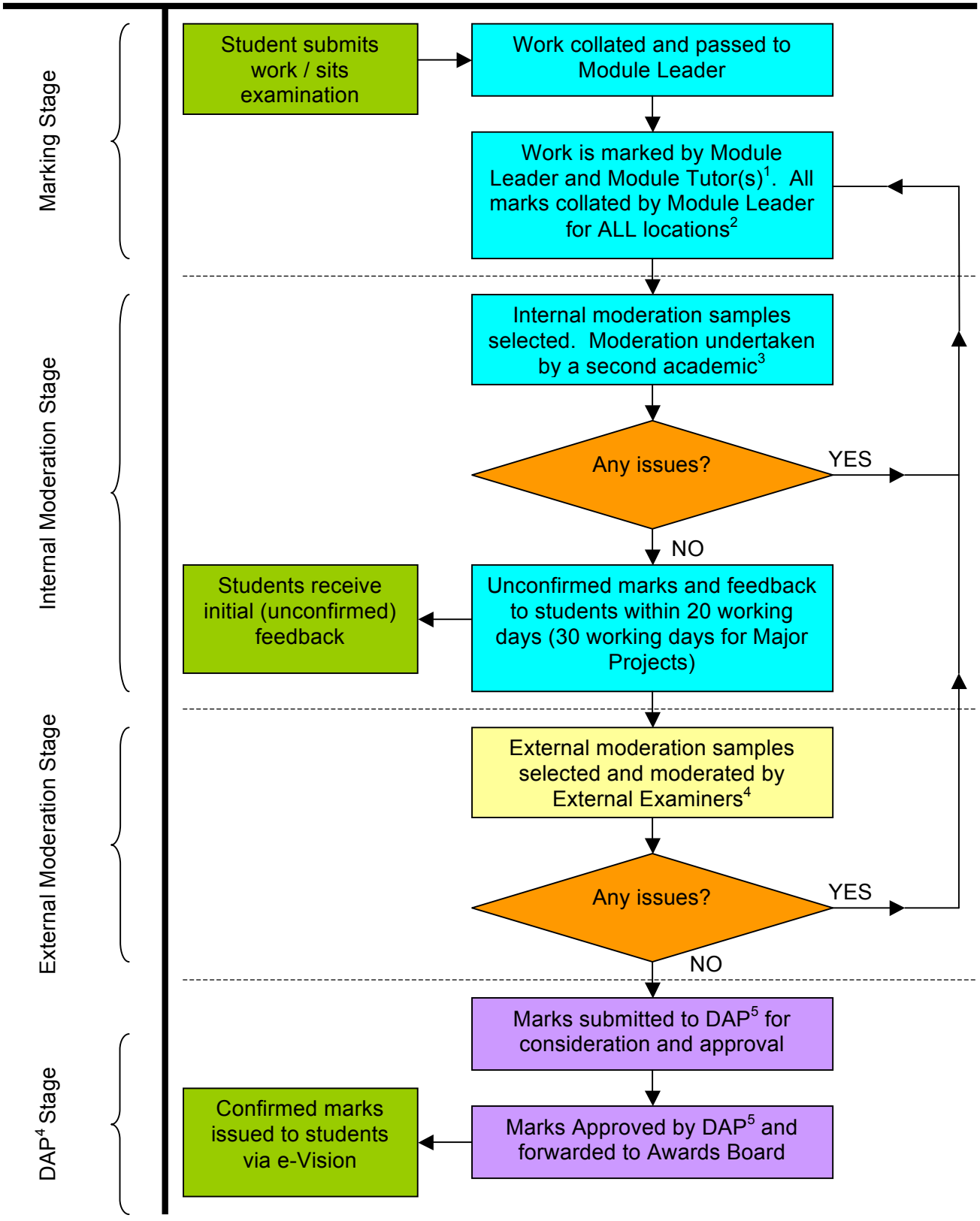
The following external examiners are appointed to this DAP and will oversee the assessment of this and other modules within the DAP's remit:

External Examiner's Name	Academic Institution	Position or Employer
Mr Islah Ali- MacLachlan	Birmingham City University	Senior Lecturer and Subject Leader
Prof Merlyne De Souza	University of Sheffield	Chair in Microelectronics
Dr Gerhard Hancke	University of London	Fellow at Royal Holloway
Mr. Steven Bennett	University of Hertfordshire	Principal Lecturer
Dr Eric Chowanietz	De Montfort University	Principal Lecturer
Mr Andrew Smith	The Open University	Senior Lecturer

The above list is correct at the time of publication. However, external examiners are appointed at various points throughout the year. An up-to-date list of external examiners is available to students and staff at www.anglia.ac.uk/eeinfo.

Anglia Ruskin's marking process is represented in the flowchart below:

Flowchart of Anglia Ruskin's Marking Processes



1 All work is marked anonymously or double marked where identity of the student is known (eg: in a presentation)

2 The internal (and external) moderation process compares work from all locations where the module is delivered (eg: Cambridge, Chelmsford, Peterborough, Malaysia, India, Trinidad etc.)

3 The sample for the internal moderation process comprises a minimum of eight pieces of work or 10% (whichever is the greater) for each marker and covers the full range of marks

4 Only modules at levels 5, 6 and 7 are subject to external moderation (unless required for separate reasons). The sample for the external moderation process comprises a minimum of eight pieces of work or 10% (whichever is the greater) for the entire module and covers the full range of marks

5 DAP: Departmental Assessment Panel – Anglia Ruskin has over 25 different DAPs to reflect our subject coverage

7. Assessment Criteria and Marking Standards

ANGLIA RUSKIN UNIVERSITY GENERIC ASSESSMENT CRITERIA AND MARKING STANDARDS

LEVEL 5

Level 5 reflects continuing development from Level 4. At this level students are not fully autonomous but are able to take responsibility for their own learning with some direction. Students are expected to locate an increasingly detailed theoretical knowledge of the discipline within a more general intellectual context, and to demonstrate this through forms of expression which go beyond the merely descriptive or imitative. Students are expected to demonstrate analytical competence in terms both of problem identification and resolution, and to develop their skill sets as required.

Mark Bands		Outcome	Generic Learning Outcomes (GLOs) (Academic Regulations, Section 2)	
			Knowledge & Understanding	**Intellectual (thinking), Practical, Affective and Transferable Skills**
Characteristics of Student Achievement by Marking Band	90-100%	*Achieves module outcome(s) related to GLO at this level*	Exceptional information base exploring and analysing the discipline, its theory and ethical issues with extraordinary originality and autonomy.	Exceptional management of learning resources, with a higher degree of autonomy/ exploration that clearly exceeds the brief. Exceptional structure/accurate expression. Demonstrates intellectual originality and imagination. Exceptional team/practical/professional skills.
	80-89%		Outstanding information base exploring and analysing the discipline, its theory and ethical issues with clear originality and autonomy	Outstanding management of learning resources, with a degree of autonomy/exploration that clearly exceeds the brief. An exemplar of structured/accurate expression. Demonstrates intellectual originality and imagination. Outstanding team/practical/professional skills
	70-79%		Excellent knowledge base, exploring and analysing the discipline, its theory and ethical issues with considerable originality and autonomy	Excellent management of learning resources, with a degree of autonomy/exploration that may exceed the brief. Structured/accurate expression. Very good academic/ intellectual skills and team/practical/professional skills
	60-69%		Good knowledge base; explores and analyses the discipline, its theory and ethical issues with some originality, detail and autonomy	Good management of learning with consistent self-direction. Structured and mainly accurate expression. Good academic/intellectual skills and team/practical/ professional skills
	50-59%		Satisfactory knowledge base that begins to explore and analyse the theory and ethical issues of the discipline	Satisfactory use of learning resources. Acceptable structure/accuracy in expression. Acceptable level of academic/intellectual skills, going beyond description at times. Satisfactory team/practical/professional skills. Inconsistent self-direction
	40-49%	*A marginal pass in module outcome(s) related to GLO at this level*	Basic knowledge base with some omissions and/or lack of theory of discipline and its ethical dimension	Basic use of learning resources with little self-direction. Some input to team work. Some difficulties with academic/ intellectual skills. Largely imitative and descriptive. Some difficulty with structure and accuracy in expression, but developing practical/professional skills
	30-39%	*A marginal fail in module outcome(s) related to GLO at this level. Possible compensation. Satisfies qualifying mark*	Limited knowledge base; limited understanding of discipline and its ethical dimension	Limited use of learning resources, working towards self-direction. General difficulty with structure and accuracy in expression. Weak academic/intellectual skills. Still mainly imitative and descriptive. Team/practical/professional skills that are not yet secure
	20-29%	*Fails to achieve module outcome(s) related to this GLO. Qualifying mark not satisfied. No compensation available*	Little evidence of an information base. Little evidence of understanding of discipline and its ethical dimension	Little evidence of use of learning resources. No self-direction, with little evidence of contribution to team work. Very weak academic/intellectual skills and significant difficulties with structure/expression. Very imitative and descriptive. Little evidence of practical/professional skills
	10-19%		Inadequate information base. Inadequate understanding of discipline and its ethical dimension	Inadequate use of learning resources. No attempt at self-direction with inadequate contribution to team work. Very weak academic/intellectual skills and major difficulty with structure/expression. Wholly imitative and descriptive. Inadequate practical/professional skills
	1-9%		No evidence of any information base. No understanding of discipline and its ethical dimension	No evidence of use of learning resources of understanding of self-direction with no evidence of contribution to team work. No evidence academic/intellectual skills and incoherent structure/ expression. No evidence of practical/ professional skills
	0%		Awarded for: (i) non-submission; (ii) dangerous practice and; (iii) in situations where the student fails to address the assignment brief (eg: answers the wrong question) and/or related learning outcomes	

8. Attendance

Attending all your classes is very important and one of the best ways to help you succeed in this module. In accordance with the Student Charter, you are expected to arrive on time and take an active part in all your timetabled classes. If you are unable to attend a class for a valid reason (eg: illness), please contact your Module Tutor.
Anglia Ruskin will closely monitor the attendance of all students and will contact you by e-mail if you have been absent without notice for two weeks. Continued absence can result in various consequences including the termination of your registration as you will be considered to have withdrawn from your studies.

International students who are non-EEA nationals and in possession of entry clearance/leave to remain as a student (Tier 4 student visa) are required to be in regular attendance at Anglia Ruskin. Failure to do so is considered to be a breach of national immigration regulations. Failure to do so will have serious implications for your immigration status in the UK. Anglia Ruskin, like all British Universities, is statutorily obliged to inform UK Visa & Immigration (Home Office) of significant unauthorised absences by any student visa holders.

9. Assessment Offences

As an academic community, we recognise that the principles of truth, honesty and mutual respect are central to the pursuit of knowledge. Behaviour that undermines those principles weakens the community, both individually and collectively, and diminishes our values. We are committed to ensuring that every student and member of staff is made aware of the responsibilities s/he bears in maintaining the highest standards of academic integrity and how those standards are protected.

You are reminded that any work that you submit must be your own. When you are preparing your work for submission, it is important that you understand the various academic conventions that you are expected to follow in order to make sure that you do not leave yourself open to accusations of plagiarism (eg: the correct use of referencing, citations, footnotes etc.) and that your work maintains its academic integrity.

Definitions of Assessment Offences

Plagiarism

Plagiarism is theft and occurs when you present someone else's work, words, images, ideas, opinions or discoveries, whether published or not, as your own. It is also when you take the artwork, images or computer-generated work of others, without properly acknowledging where this is from or you do this without their permission.

You can commit plagiarism in examinations, but it is most likely to happen in coursework, assignments, portfolios, essays, dissertations and so on.

Examples of plagiarism include:

- directly copying from written work, physical work, performances, recorded work or images, without saying where this is from;
- using information from the internet or electronic media (such as DVDs and CDs) which belongs to someone else, and presenting it as your own;
- rewording someone else's work, without referencing them; and

- handing in something for assessment which has been produced by another student or person.

It is important that you do not plagiarise – intentionally or unintentionally – because the work of others and their ideas are their own. There are benefits to producing original ideas in terms of awards, prizes, qualifications, reputation and so on. To use someone else's work, words, images, ideas or discoveries is a form of theft.

Collusion

Collusion is similar to plagiarism as it is an attempt to present another's work as your own. In plagiarism the original owner of the work is not aware you are using it, in collusion two or more people may be involved in trying to produce one piece of work to benefit one individual, or plagiarising another person's work.

Examples of collusion include:

- agreeing with others to cheat;
- getting someone else to produce part or all of your work;
- copying the work of another person (with their permission);
- submitting work from essay banks;
- paying someone to produce work for you; and
- allowing another student to copy your own work.

Many parts of university life need students to work together. Working as a team, as directed by your tutor, and producing group work is not collusion. Collusion only happens if you produce joint work to benefit of one or more person and try to deceive another (for example the assessor).

Cheating

Cheating is when someone aims to get unfair advantage over others.

Examples of cheating include:

- taking unauthorised material into the examination room;
- inventing results (including experiments, research, interviews and observations);
- handing your own previously graded work back in;
- getting an examination paper before it is released;
- behaving in a way that means other students perform poorly;
- pretending to be another student; and
- trying to bribe members of staff or examiners.

Help to Avoid Assessment Offences

Most of our students are honest and want to avoid committing assessment offences. We have a variety of resources, advice and guidance available to help make sure you can develop good academic skills. We will make sure that we make available consistent statements about what we expect. In accordance with our '***Academic Honesty Policy***', you will be able to do tutorials on being honest in your work from the library (http://anglia.libguides.com/GAP) and other central support services and faculties, and will be able to review your work for plagiarism using 'Turnitin®UK' (where appropriate), an online service for matched-text. You can get advice on how to use honestly the work of others in your own work from the library website (www.libweb.anglia.ac.uk/referencing/referencing.htm) and your lecturer and personal tutor.

Turnitin®UK will produce a report which clearly shows if passages in your work have been **matched with another source. Originality of assessment is an academic judgement and there is no**

generally acceptable upper or lower similarity score. You may talk about the matched-text in the 'Turnitin®UK' report with a member of academic staff to see where you may need to improve your academic practice. If you are not sure whether the way you are working meets our requirements, you should talk to your personal tutor, module tutor or other member of academic staff. They will be able to help you and tell you about other resources that will help you develop your academic skills.

Procedures for Assessment Offences

An assessment offence is the general term used to define cases where a student has tried to get unfair academic advantage in an assessment for himself or herself or another student.

We will fully investigate all cases of suspected assessment offences. If we prove that you have committed an assessment offence, an appropriate penalty will be imposed which, for the most serious offences, includes expulsion from Anglia Ruskin. For full details of our assessment offences policy and procedures, see Section 10 of the *Academic Regulations* at: www.anglia.ac.uk/academicregs .

10. Module Evaluation

During the second half of the delivery of this module, you will be asked to complete a module evaluation questionnaire to help us obtain your views on all aspects of the module.

This is an extremely important process which helps us to continue to improve the delivery of the module in the future and to respond to issues that you bring to our attention. The module report in section 11 of this module guide includes a section which comments on the feedback we received from other students who have studied this module previously.

Your questionnaire response is anonymous.

Please help us to help you and other students at Anglia Ruskin by completing the Module Evaluation survey. We very much value our students' views and it is very important to us that you provide feedback to help us make improvements.

In addition to the Module Evaluation process, you can send any comment on anything related to your experience at Anglia Ruskin to tellus@anglia.ac.uk at any time.

11. Report on Last Delivery of Module

Anglia Ruskin University	**MODULE REPORT FORM**

This form should be completed by module tutors (where there is more than one delivery) and forwarded to Module Leaders who compiles the results on to one form for use at the Programme Committee and other methods of disseminating feedback to students.

Module Code and Title: MOD003263 Software Engineering

Anglia Ruskin Department: Computing & Technology

Location(s) of Delivery: Cambridge

Academic Year: 2013/14 **Semester/: 1**

Enrolment Numbers (at each location): 54

Module Leader: Cristina Luca

Other Module Tutors:

Student Achievement *Provide a brief overview of student achievement on the module as evidenced by the range of marks awarded. A detailed breakdown of marks will be available at the Departmental Assessment Panel.*

The students did very well.
Most of them understood the role of the design and were able to go through the phases of the software lifecycle.
They improve a lot their programming skills.

Feedback from Students *Briefly summarise student responses, including any written comments*

Very good feedback.

Module Leader/Tutor's Reflection on Delivery of the Module, including Response to Feedback from Students *(including resources if appropriate)*

I'm very satisfied by the students' works.

Developments during the current year or planned for next year *(if appropriate)*

I still need to work on supporting more the groups where part of the group doesn't engage.
Add another session on DB to show them how to connect to the DB and use it without using the wizard.

External Examiner's Comments *State whether the external examiner agreed the marks and/or commented on the module*