



ASSESSMENT BRIEF

Module Title:	Software Engineering Practice
Module Code:	KF5012
Academic Year / Semester:	2022-23 / Semester 2
Module Tutor / Email (all queries):	Dan Hodgson dan.hodgson@northumbria.ac.uk
% Weighting (to overall module):	80%
Assessment Title:	Practical Assessment (Umbrella Brief) – See also stream-specific briefs
Date of Handout to Students:	23rd January 2022
Mechanism for Handout:	Module Blackboard Site
Deadline for Attempt Submission by Students:	23:59 GMT on Monday May 8th 2023
Mechanism for Submission:	<p>Software upload. Most streams will upload via Blackboard. Some streams need special arrangement for large submissions.</p> <p>It is your responsibility to ensure that your assignment arrives before the submission deadline stated above. See the University policy on late submission of work.</p>
Submission Format / Word Count	Please submit according to stream-specific instructions. No word/size limit is applied.
Date by which Work, Feedback and Marks will be returned:	5 th June 2022
Mechanism for return of Feedback and Marks:	Email



1. Introduction

Welcome to the assignment specification for KF5012 Software Engineering Practice. This is a team assignment, but most of the marking will be given for individual responsibilities. This assignment has been designed in such a way that it can be used for a wide range of project briefs, while still providing a framework which gives transparency and equivalence for marking, and gives clarity of expectations. Each degree path will receive this “umbrella” assignment brief, and a project brief which is specific to their specialist subject.

1.1 Learning Outcomes

The learning outcomes assessed in this module are:

Knowledge & Understanding:

1. Apply knowledge and understanding of appropriate project management and software engineering techniques and tools to a computing project, including risk management

Intellectual / Professional skills & abilities:

2. Create a professional and effective project proposal (including a skills audit), incorporating both project management and software engineering principles, and displaying understanding of commercial and economic issues
3. Plan, manage and achieve a successful project outcome that meets appropriate ethical, social, legal and professional standards working in a team

Personal Values Attributes (Global / Cultural awareness, Ethics, Curiosity) (PVA):

5. Communicate information both in writing and orally in a concise professional manner

2. Brief

2.1 General Instructions

You are required to form a team of four students. In this team you will create a software product relevant to your path of study. Please read your path-specific project brief carefully. By the end of week four of the semester you will need to submit a project proposal and skills audit (see below for more details) which will define the parameters of your project, including individual responsibilities. You will then have until the hand-in in the first week of the assessment period to develop your software and relevant documentation as specified. All teams will be required to manage their project in a structured and documented way, provide relevant analysis, design, and/or requirements documentation, and document structured testing procedures. Teams will be required to demonstrate their software to a tutor in a demo arranged shortly after hand-in, to make sure you get full credit for the functionality of your software.

2.2 The path-specific plug-in briefs

As has already been said, each subject path will receive a different project brief, which is relevant to your programme of study. The parameters of these briefs have been designed to complement your study on other modules, draw together skills you already have from previous study, and provide enhancement to the specialist skills you will develop at level 6. The briefs have been designed by subject specialists, who will be supporting you with specialist teaching and workshops during the delivery of the module. The work will also be marked by the specialists.

The briefs all give general instructions and parameters, and then specify a number of “missions” – somewhat atomic tasks (more on missions later).



2.3 Forming Teams

Students will form teams of four within their subject cohort. You must tell us about your team (who you are in a team with) by 12 noon on Monday 6th February 2023. You must do this by email to the module tutor (Dan). Please cc in the rest of your team in this email. **If you cannot find a team do not worry.** Students who are not in a self-nominated team will be assigned to a team, using module marks from previous study to collect together students of similar ability.

We will accept proposed teams of three, but please be aware that there is a chance we will assign a fourth person to your group to make up the numbers. It would help if you could say if you would prefer to have a fourth person added or if you would prefer to stay as three. If you have a buddy you want to work with, but don't have more team members, please email Dan, who will try to respect your wishes. Any information you can give about teams can be taken into account, if we don't know, we can't guess. **The more we know, the better we can help you.**

We will do our best to respect the team choices you have made, however, **we reserve the right, if needed, to restructure groups.** This will only be done if absolutely necessary to avoid left-over students being in groups of two or one. For example, if there are ten students on a cohort, and eight of them form two groups of four, leaving two students remaining, we would need to do some restructuring to make sure we have a minimum group size of three.

Groups of five or above are not allowed, Groups of two or one are not allowed.

If you are having difficulties getting into a group and want to ask tutors for help with this, that is allowed. We will also facilitate emailing out adverts if that is helpful (e.g. "We are a group of three, we are xxx, yyy and zzz, and we are looking for somebody who will act as Producer and Tester."

General advice on forming groups:

It is worth having a look at the project brief before you decide on team-members. It is tempting to form a group with your best friends, and while this can work very well, sometimes it can be disastrous. Over the years of observing students in groups, I have noticed that the winning formula is usually a combination of a mixture of complementary skills, a group dynamic that works for all (democratic or autocratic, both can work), and having similar aspirations of marks, and commitment of effort. The worst group situations I have seen usually come down to the fact that one or more team members have different expectations to the others.

If you have a DSSR which asks us to specifically help you in the formation of groups, or with a requirement to work alone, please make us aware of this so we can help you appropriately. **You cannot use the "solo" version of this assignment without permission from the tutor.**

2.4 The mission system

The project briefs will have some general instructions, and then the work is broken down into several "missions". This structure is specifically designed to give clear individual responsibility for the majority of the work.

Each team member takes individual responsibility for two missions.

Each team will also take two missions which are "team responsibility". You need to very much work together to achieve these, and the marks for these missions will be given to all students in the team.

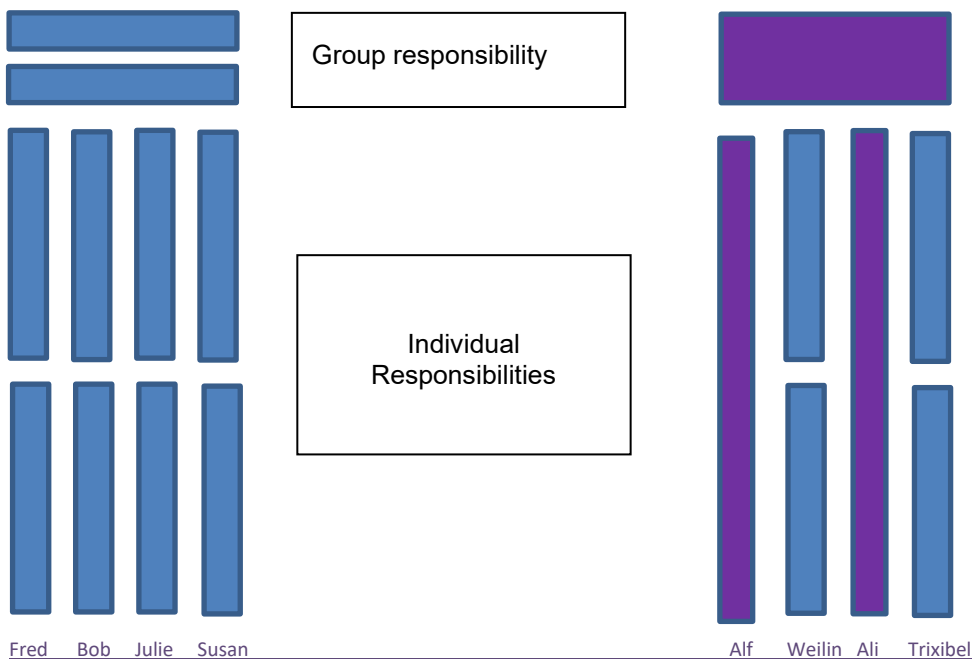
This means your team of four will take ten missions. The project briefs will have at least ten missions, some may have more, which will allow you to customise your project to your skillset. If there are more than ten missions available, there will be some missions which every team must take (for example, every team for all projects must take the *Project Management* mission and a *Testing* mission, but some project briefs may have more mandatory missions). Each project brief can define its own rules about mission choice – there may be dependencies (you may only take mission X if you also take mission Y), "one-of" choices (you must take one and only one of mission X and mission Y), "at least x number of" (you must take at least two of mission W, mission X, mission Y and mission Z), exclusions (if you take mission X you cannot take mission Y) or any other rules that seem appropriate to the creator of the proposal to ensure successful projects which meet the learning outcomes and the needs of common sense.



If there are only ten missions in a project brief, you won't have these complications, but you still have complete flexibility on how you assign those missions.

Some briefs may define “double missions” – tasks which are worth twice as much as a standard mission. A double mission counts for two missions. Therefore, if a team member takes individual responsibility for a double mission, then that is all of their individual responsibility. If a team opts to have group responsibility for a double mission, then that is all of their group responsibility.

Some people understand things like this better with a diagram, so there are diagrams below to illustrate the mission structure in terms of assignment to individual responsibility and group responsibility. Each blue box is a normal mission. Each purple box is a double mission, taking the place of two normal missions.



All normal missions

A mixture of normal and double missions

All missions are marked out of 100. The components are then combined as follows.

- An individual normal mission is multiplied by 0.4. Only that team member gets the mark
- An individual double mission is multiplied by 0.8. Only that team member gets the mark
- A group normal mission is multiplied by 0.1. All team members get this mark
- A group double mission is multiplied by 0.2. All team members get this mark.

A team of three is marked in the same way, with the same weightings, but of course they will have undertaken eight missions rather than ten.

2.5 Choosing and assigning missions

As you choose and assign your missions you should take into account the skills of your team members. This process should be aided by the skills audit. You can only assign missions as individual responsibility or group responsibility, you cannot have any other “shape” (for example two people sharing a double mission).



2.6 Working on your missions

The wording in this assignment has been carefully chosen. Individuals have **responsibility** for certain missions, this does not mean that they can be the only person to work on a mission. **Within your team** it is entirely reasonable to do deals with team members to get help, trade help, share expertise and opinions and so on. Similarly, just because a mission is a group responsibility, doesn't mean all four have to do equal work on those missions. The work on those missions can be factored into any deals or arrangements you make. However, it is up to you in your team to police these deals. We strongly suggest that any significant-sized deals are documented as part of the Project Management, and clear penalties for failure to deliver are laid out.

Something I want to make very clear is that **the student who has responsibility for a mission is the student who receives the marks for that mission**. Every year we have students who want to challenge the fairness of this, which is why there is a separate document "KF5012 Why you cannot get marks for somebody else's missions" to explain the reasons for this in more detail.

Also, changing missions, once assigned, during the project is something we try to avoid. **Missions can only be changed with the express approval of the stream leader.**

2.7 The Project Proposal and Skills Audit

As part of the *Project Management* mission, your team is required to produce a project proposal and skills audit. These documents will be handed in via Blackboard by the end of week four (midnight, 17th February 2023). This is to be done using the template provided on Blackboard. Each stream has a different template, because the skills to be audited are stream-dependent.

2.8 When things go wrong

Group work usually goes quite smoothly, but occasionally there are problems. The role of Project Manager is intended to help deal with some of these problems, but problems may arise which are beyond their ability to solve. The resident expert tutor on group working is Dan, who is your first port of call should you need arbitration.

Sometimes a group member leaves. If this happens you should talk to your path specialist tutor to advise on re-assigning missions, and which missions to drop.

Sometimes a group member stops doing any work. **Your first recourse should be communication**, if possible, with them. Most problems can be sorted out with clear communication, and often the expectation of the scope of work, or when the work will be done, has not been clear. If this doesn't work, you can apply sanctions through your code of conduct and ask Dan for advice. In extreme cases we can remove a team member from a group. We would like to regard this as a last resort, however, if it would seem to be inevitable, then the sooner this is done the better, in order for us to work with the ejected person on how they can achieve the learning outcomes on their own.

Sometimes there are personal problems between team members. Your tutoring team has had no training in counselling, but again we would ask you to try to sort it out internally first, then seek help, and as a final recourse we can consider restructuring groups.

One of the biggest sources of contention is whether some team members deserve to get marks gained by the efforts of others. Sometimes there is a clear disparity in effort (sometimes that perception is misplaced). Because of the mission structure, it should be mostly clear how to assign marks for individual responsibility. Sometimes, you may need to fake the effect of the work of others if that impacts your own work, in order to fulfil the requirements of your mission.

For team missions, we expect most teams to have equal marks. If there is a team that feels that this is significantly unfair we will use the following method:

- Each team member will be asked to rate the work of the members of their team by using a weighting system. A template for this will be provided in this event.
- The results of these weightings will be averaged across the students in the team. If any team member declines to produce a weighting we will assume they want equal weighting.
- This final weighting will be the allotment of marks applied.



There are two additional rules that we will apply for this process:

1. We will not do anything on the report of only one student
2. We will apply common-sense to over-ride this process if we deem it necessary. The tutors' judgement will be the final one. This is to stop opportunistic students colluding to "gang up" on a team member unfairly. The decision on this rests with the module tutor (Dan).

3. Hand-in Details

As has been said above, the Project Proposal and Skills Audit will be handed in at the end of week four. All other work will be handed in by the final deadline and demonstrated at an arranged demonstration shortly thereafter. At that demonstration you will be expected to "walk through" your work and answer questions about it. Hand-in details will be given to you

Students must retain an electronic copy of this assignment (including ALL appendices) and it must be made available within 24 hours of them requesting it be submitted.

All documents must be submitted in PDF format. The only compression format permitted is zip. We reserve the right to not mark work that does not adhere to these rules.

4. Marking

Anonymous marking: University policy requires that where practicable, work be marked anonymously. Because of the group element, of this assessment, the use of presentations, and the level of support we will be giving you, anonymous marking is not practical for this assessment.

All missions will be given a mark out of 100, and then weightings will be applied as follows:

- An individual normal mission is multiplied by 0.4. Only that team member gets the mark
- An individual double mission is multiplied by 0.8. Only that team member gets the mark
- A group normal mission is multiplied by 0.1. All team members get this mark
- A group double mission is multiplied by 0.2. All team members get this mark.

All missions define both **elements** which describe the scope of the work to be undertaken, and **qualities** which define the specific attributes we are concerned with when marking. It is far easier to determine whether a student has completed all elements, than to assess the desired qualities of the work. All qualities are marked with a level of expectation which is informed by your level of study (level 5), knowledge of the contents of the rest of your studies, and the nature of your speciality. The assessment of these qualities is where academic judgement needs to be applied.

Here is the marking scheme that will be applied to all missions:

Exceptional	All elements complete, all qualities shown, extra elements or qualities shown which go beyond expectations, and work which shows novelty or innovation.	90-100%
Outstanding	All elements complete, all qualities shown, and extra elements or qualities shown which go beyond expectations.	80-89%
Excellent	All elements complete, all qualities clearly shown	70-79%
Strong	Either some small omissions in elements, or some minor deficiencies in qualities	60-69%



Satisfactory	Noticeable weaknesses in more than one quality or missing elements or parts of elements. On balance, still considered to be demonstrating skill and ability	50-59%
Weak	Significant weaknesses in several qualities and missing elements. Passable, but below acceptable.	40-49%
Poor	No qualities fully realised, a large proportion of elements missing.	30-39%
Deeply Flawed	The work bears little relation to what is asked for, both in content and quality. Displaying severe flaws in understanding, execution and the desired qualities.	0-29%

All missions should give some indication of what might be regarded as **going beyond expectations** and **showing novelty or innovation**. These marking bands are not easy to get into, to achieve the 80-89 band the work will need to show that the student or team have gone beyond what has been taught, and what has been asked for. While some missions may award this for breadth and effort, it is expected that this will be more likely to be awarded for showing greater depth of skill, possibly in complexity, or technical ability.

The 90-100% marks scheme is reserved for rewarding students who show significant advances and flair in their work. It is expected that most years will go by without this marks range being used, this is the sort of requirement which is more usual at master's level study.

If your work **perfectly** matches one of the grade band descriptions you will be awarded a mid-range mark, i.e. 35,45,55,65,75,85.... (the statements have been designed to align to the mid-range mark)

This almost never happens, as the work tends to either lie between two descriptions, or show aspects of two or more descriptions. What will normally happen is that your mark will be awarded to reflect a compromise between these statements. Partial marks may be used.

5. Feedback.

Marks and summative feedback will be sent to you individually by email after marking, normally within 4 working weeks of submission.

Module marks are not negotiable and the module team will not respond to challenges to marks on academic grounds. If you think there is a procedural error in your marking (e.g. sections missed, incorrect addition) please contact the teaching team. If you are having problems understanding your feedback you may contact the marking team for clarification. Provisional marks may be released along with feedback before the marks have been formalised by an exam board. Any such provisional marks are subject to change.

6. Regulations and Policies

6.1 Assessment Regulations

This is a team assignment. You are allowed to work alongside other team members, and indeed to achieve good marks this will be necessary.

You are advised to read the guidance for students regarding assessment policies. They are available online through your student portal.

6.2 Late submission of work

Where coursework is submitted without approval, after the published hand-in deadline, the following penalties will apply.

For coursework submitted up to 1 working day (24 hours) after the published hand-in deadline without approval, **10% of the total marks available for the assessment** (i.e. 100%) **shall be deducted** from the assessment mark.

Coursework submitted more than 1 working day (24 hours) after the published hand-in deadline without approval will be regarded as not having been completed. **A mark of zero will be awarded for the assessment and the module will be failed**, irrespective of the overall module mark.

These provisions apply to all assessments, including those assessed on a Pass/Fail basis.

The full policy can be found through your student portal.

6.3 Group Work

The group work policy can be found [here](#). It may also be accessible through the student portal. Please see the rest of this specification for details on how this group work assignment works.

6.4 Academic Misconduct

The Assessment Regulations for Taught Awards (ARTA) contain the Regulations and procedures applying to cheating, plagiarism and other forms of academic misconduct.

The full policy is available through your student portal.

You are reminded that plagiarism, collusion and other forms of academic misconduct as referred to in the Academic Misconduct procedure of the assessment regulations are taken very seriously. Assignments in which evidence of plagiarism or other forms of academic misconduct is found may receive a mark of zero, and a strike in your student record. A second strike can result in expulsion from your studies.

My advice is – don't take the risk! Students that we catch are often surprised by the severity of the consequences.