Cardiff University

School of Computer Science and Informatics

The integration of the Annual Module Review process between the School of Computer Science and Informatics and the School of Mathematics

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Abstract

The School of Computer Science and Informatics and the School of Mathematics have received approval that they will move to a new state of the art facility, which has created the opportunity to explore the ways in which the annual module review process can be integrated between both schools in order to save resources, improve effectiveness, and increase efficiencies.

The project modelled the ways in which both Schools currently implement and execute their module review and enhancement obligations in the form of a workflow model and a set of Event-Condition-Action inspired business rules. Followed by the analysis of variation between the two current ways of working and the advantages of the different methods and components used by either School, as well as noting the key considerations that need to be noted when contemplating an integrated process.

The result of this project is the proposal of two different integrated annual module review process models in the form of a workflow and sets of business rules, which focus on opposite priorities and as a result provide a large insight into the range of components and features which can be added or removed to tailor an integrated process which is accepted by both Schools' teams of management. Ultimately, it lays the foundation for an implementable integrated annual module review process but outlines future work which when completed would offer an implementable and agreed upon integrated process in time for when the Schools move to the new site.

Acknowledgements

I would like to thank Professor Stuart Allen from the School of Computer Science and Informatics, for approaching me and offering me this project, showing his support and faith in me to deliver recommendations for the School of Computer Science and Informatics and the School of Mathematics.

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1. Introduction

As a member of the Russell Group, with a desire to remain in the world top 200 as a University, with an ambition to enter the top 100 in the world [1], Cardiff University is in the process of heavily investing and preparing for the future to accommodate the greatest academic excellence on a global stage. Examples of significant investment include: investing in a Centre for Student Life (£50 million) [2], building the Innovation Central (£50 million) [3] and constructing a Translational Research Facility (£77 million) [4].

From a College of Physical Sciences and Engineering perspective, the University is sharing this ambition with the School of Computer Science & Informatics and the School of Mathematics. The Cardiff University Executive Board have committed the funding (£23 million) and support for a new state of the art academic facility to be built [5], which will host the School of Computer Science and Informatics, and the School of Mathematics.

As it currently stands, with both schools being geographically separated, all processes need to be executed individually by each school. However, with this planned co-location, an opportunity has arisen in terms of examining process integration between the School of Computer Science and Informatics and the School of Mathematics. The exploration of scenarios whereby the schools could collaborate to execute a process, in an attempt to conserve resources, save time and be more effective in their departmental operations.

1.1 The Aim of the Project

This aim of the project is to analyse the Annual Module Review (AMR) process, in attempt to explore how it can be integrated and executed once between the School of Computer Science & Informatics and the School of Mathematics in a collaborative fashion.

In order to successfully explore the feasibility of process integration, , the project will begin by learning, understanding and codifying the AMR process in the School of Computer Science and Informatics [6], followed by the AMR process in the School of Mathematics [6].

The project will then embark on its greatest challenge of identifying the conflicts between the AMR processes [6] highlighting the advantages for the different ways of working and steps within the processes which prevent immediate integration. Through this, the project aims for to develop two different integrated annual module review process models with different priorities and focuses, to highlight the range of components and features that can be included and excluded from the annual module review process, depending on the needs and specific requirements from each school.

Ultimately, the purpose of this project is to explore the process integration of the AMR process between the School of Computer Science and Informatics and the School of Mathematics. The project hopes that once the two schools eventually move to their new state of the art facility, that they can refer to this report, in an attempt to increase efficiency, conserve resources and

operate effectively together, as part of an ambitious and ever-growing academically excellent university.

1.2 The Cardiff University Strategy (2018 – 2023)

At the start of the 2017/18 academic year, the Cardiff University Executive Board developed and published their new five-year term strategic plan for 2018 to 2023. The strategy is named as 'The Way Forward' highlighting the planned steps the University wants to take to be innovative and grow as an academically excellent institution in the UK and within the world [1].

Within any organisation, sub-strategies, tactical and operational action plans are created in an attempt to progress towards achieving the wider strategic goals, which are explicitly outlined at the Executive and strategic level.

This project will attempt to support the execution and achievement of the following strategic objectives outlined in Cardiff University's 'The Way Forward 2018 – 2023' strategy:

- *Listen to our students, and use their feedback to improve our teaching and the wider student experience* [1]
    - Formalising and creating an integrated AMR process, provides the opportunity for both the School of Computer Science & Informatics and the School of Mathematics to formally involve students in the process, and value their feedback demonstrably and evidently.
- *We aim to remain in the world top 200 as measured by QS World University Rankings, the Times Higher Education World University Rankings, the Academic Ranking of World Universities and the Best Global Universities Ranking, and in the top 100 of at least one of these. We aim to enter the UK top 20 in The Times and Sunday Times Good University Guide* [1]
    - Academic excellence is a significant weighting in how Universities are ranked within league tables. As a result of formalising an integrated AMR process between the School of Computer Science & Informatics and the School of Mathematics, it provides an opportunity to ensure that modules are improving year-on-year which will lead to greater academic excellence.
- *We will be known as a University which invests in high quality facilities and infrastructure to underpin outstanding learning, teaching and the student experience* [1]
    - A formalised and integrated AMR process between the School of Computer Science & Informatics and the School of Mathematics can be a core and central part of departmental business and operational infrastructure to support outstanding learning, teaching and the student experience.
- *Embed a holistic framework for continuous personal and professional development to promote and support the improvement and enhancement of leadership, management and delivery of teaching* [1]

o A formalised and integrated AMR process can be part of that learning and holistic framework, specifically in terms of a formal time period, for academic staff to make clear the changes they are going to make to their modules. It ensures that productive changes are not forgotten but promoted.

1.3 The School of Computer Science & Informatics and the School of Mathematics Strategy

Back in 2015, when the School of Computer Science and Informatics and the School of Mathematics first proposed the idea of a new state of the art facility being built, for the two schools to share, a business case was developed by both Heads of School in order to gain the necessary approval and funding.

The author of this project report, discussed with Professor Stuart Allen - the Head of the School of Computer Science and Informatics - what was included in the business case, to understand the context and justifications of this major University investment, but also, how this project, the integration of the AMR process between the two schools once they move, will be relevant and a supplement to their original business case.

1) **Physical Space** – the School of Computer Science & Informatics and the School of Mathematics both encounter difficulties with the realities of the physical space and environments in which they host their teaching and research. Both schools are unable to offer any flexibility in terms of teaching methods due to a lack of space within lecture theatres or the layout of the rooms, for example, the School of Mathematics are forced to teach many of their classes in lecture theatres which are not hosted in their building (Great Hall and Students' Union).

2) **Greater Collaboration between relevant disciplines** – from a teaching perspective the co-location of these two schools allows for the development of new or the re-introduction of degree programmes, such as joint-honours as there are many complimentary knowledge pools within the two schools which benefit each other. From a research perspective, interests such as Big Data, Artificial Intelligence and Security cross-over between the academics and faculty, and them being closer to each other will open up opportunities for more effective and innovative research.

3) **Greater Effective and Efficient Business Operations** – both Heads of School have realised a clear opportunity which is available from an operational perspective when they co-locate.

This project aims to supplement and support specifically the third benefit and opportunity outlined in the original business case from 2015, for the School of Computer Science and Informatics and the School of Mathematics to greater collaborate and share their departmental resources to become more effective and efficient, for the benefits of their faculty, their students and as a result Cardiff University.

1.4 The Deliverables and Objectives of the Project

Below clearly outlines the objectives and their corresponding deliverables for the project. They are listed in planned order of achievement.

1. An understanding and modelling of the AMR process in the School of Computer Science and Informatics
   - **Deliverable 1:** *Computer Science's Annual Module Review Process Workflow Model*
   - **Deliverable 2:** *Computer Science's Annual Module Review Process Business Rules*
2. An understanding and modelling of the Annual Module Review process in the School of Mathematics
   - **Deliverable 3:** *Mathematics' Annual Module Review Process Workflow Model*
   - **Deliverable 4:** *Mathematics' Annual Module Review Process Business Rules*
3. An analysis of difference and variation between the two unintegrated and current AMR processes within each individual school currently execute
   - **Deliverable 5:** *Analysis of difference and variations between two current models*
4. The creation, development and proposal of two integrated annual module review process models which can lay the foundations for an integrated process to be adopted between both Schools
   - **Deliverable 5:** *Governance and Diligence Oriented Integrated Annual Module Review Process Workflow Model*
   - **Deliverable 6:** *Governance and Diligence Oriented Integrated Annual Module Review Process Business Rules*
   - **Deliverable 7:** *Speediness and Expedition Oriented Integrated Annual Module Review Process Workflow Model*
   - **Deliverable 8:** *Speediness and Expedition Oriented Integrated Annual Module Review Process Business Rules*

1.5 The Structure of the Project Report

The structure of the project report is as follows:
1. Introduction – outlining the purpose and justifications for the project
2. Background – explaining academic and industry concepts which will apply to the project, as well as the key components and features of an AMR process at Cardiff University
3. Methods – the way in which the author plans to tackle the project and deliver on the objectives

4. <u>Modelling</u> – the modelling of the current unintegrated AMR processes within each school in the form of a workflow and a set of a business rules
5. <u>Analysis</u> – explains the differences and variations between the two ways in which the Schools currently conduct their AMR processes, and proposes two different types of a potential integrated process between both schools
6. <u>Future Work</u> – outlines the additional work that can be conducted to build upon the work completed for this project
7. <u>Conclusion</u> – explains the deliverables achieved from completing the project
8. <u>Reflection on Learning</u> – explains a reflective account of the learning experience while completing the project

2. Background

This section of the report will explore and discuss the theoretical concepts behind the project, to provide theoretical and academic justification, including: business processes, process integration and details on the Annual Module Review process within Cardiff University.

2.1 Business Processes

At the centre of this project is a business process, and below outlines and defines what a business process is formally and from a theoretical and academic perspective.

According to Appian, who provide Business Process Management (BPM) tools to organisations, a business process is a set of activities and tasks, once completed, will accomplish an organisational goal [7]. The process must involve clearly defined inputs and a single output [7]. Bill Curtis defined a process as a partially ordered set of tasks or steps undertaken towards a specific goal [8]. Finally, Hammer and Champy define business processes as a set of activities that, together, produce a result of value to the customer [9].

This project focuses on a single type of business process, which is executed differently between two organisational departments. The commonality between a single type of business process, is not always the steps within the process, but its intended result and outcome. There are a range of variations in terms of how a process is executed and implemented that different organisational departments may implement, but in the common attempt to achieve the same desired outcome and endpoint from executing that process.

2.2 Process Integration and Process Standardisation

As mentioned previously, a major part of this project is the integration of the AMR processes between the School of Computer Science and Informatics and the School of Mathematics.

Since the late 1900s, process management, process integration and process standardisation have grown and have largely become the norm for organisations in the majority of industries [10]. Executives and management understand the need for sub-units and functions to cooperate horizontally through integrated processes, to gain competitive advantage, become more effective in delivering for customers and efficient with available resources [10].

Process integration involves making multiple units, functions, and sites of organisations work together to increase the capacity, improve performance, lower cost (time and financial), and allow for the discovery of new opportunities [11]. In virtually every industry, through process management and integration, companies of all sizes have achieved extraordinary improvement in costs, quality and speed [12], as well as often rewarding customers (student and staff) with a higher quality and more responsive service [10].

In particular overheard costs can be lowered as an integrated and standardised process requires only one owner with one staff, only one set of documentation and training materials, and only one information system [10].

Furthermore, the integration of processes can offer organisational flexibility – when business units, departments or Schools in this case, perform a process in the same way, the Schools' management team can easily reassign people in positions around that process with ease, no matter if they are from the School of Mathematics or the School of Computer Science and Informatics [10].

However, over time businesses and organisations develop bad habits, such as resisting change, whereby they become better at stifling the advantage of integration on a wider scale, favouring more smaller silos changes which are vertical rather than horizontal [11].

This project is ambitious, at the very least to provide an integrated proposal of the AMR process which offers the advantages of improving efficiency, collaboration and effectiveness between the schools for module review, as well as providing a documented reference of the operations of the AMR process between the two Schools, which could be used as future training material.

2.3 Knowledge Management Lifecycle

Becerra-Fernandez defines Knowledge Management as performing the activities involved in discovering, capturing, sharing, and applying knowledge so as to enhance, in a cost-effective fashion, the impact of knowledge on the unit's goal achievement [13].

The definition outlined by Becerra-Fernandez can be put into practice within organisations through the Knowledge Management Lifecycle, as seen below [13]
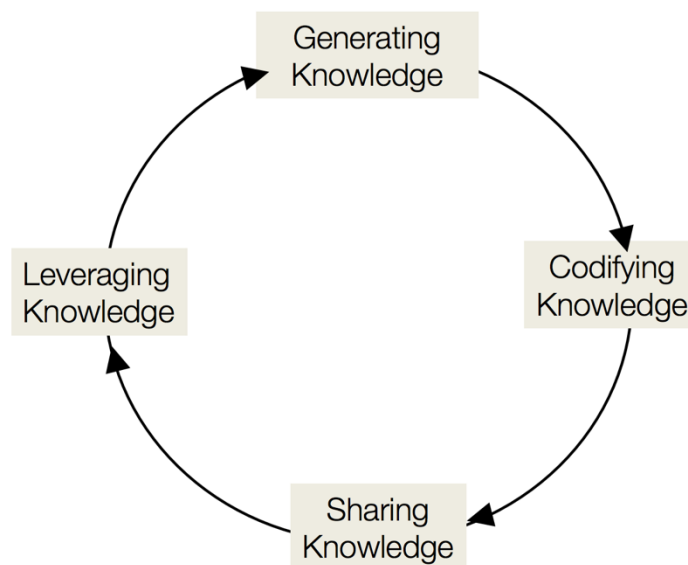
Figure 1 - Knowledge Management Lifecycle

Generating Knowledge – this phase focuses on the organisation *discovering* new knowledge which could benefit the organisation either immediately or in the future [13].

Codifying Knowledge – this phase focuses on the organisation *capturing* knowledge within the organisation itself (internal) or within the environment (external) in which the organisation operates within and interacts with [13].

Sharing Knowledge – this phase focuses on the organisation *sharing* knowledge internally as well as externally where appropriate which allows the organisation to perform the activities they need to, with the support of the necessary knowledge being available when required [13].

Leveraging Knowledge – this phase focuses on the organisation *applying* knowledge in order to effectively execute activities which contribute towards achieving the organisation's goal achievement [13].

From an information technology perspective, its role within the Knowledge Management Lifecycle is to provide and develop the necessary IT support for these activities to take place, often acting as enablers and facilitators [13].

This project focuses on supporting two phases of the Knowledge Management Lifecycle, including:
- **Codifying Knowledge** – the project will aid in capturing the details of how the AMR processes are currently executed individually between the two schools, as well as capturing the details and new knowledge of how an integrated AMR process could work.
- **Sharing Knowledge** – through the completion of this project structured documentation and analysis in the format of this report will be available, which can be shared in the future and referenced to for training and learning material around the AMR process for both individual Schools, as well as a proposed integrated model for after the co-location is completed.

Ultimately this project has the opportunity to support the overall Knowledge Management process for the School of Computer Science and Informatics and the School of Mathematics.

2.4 Organisational Learning – Single and Double-Loop Learning

Before starting this project, the author had no knowledge of the AMR processes, other than a basic understanding that changes are in fact made on a yearly basis in an attempt to improve the quality, and excellence of the academic modules being delivered to students. Therefore, the author will spend the entirety of this project continuing to learn as decisions are made, models are built, and communication is made with the relevant stakeholders.

However, the types of learning will vary depending on the stage of the project. In the early stages of the project, the author will be using Single-Loop Learning. Single-Loop Learning is

when an entity such as people, organisations or groups modify their actions based on the difference between the expected result of conducting that action, and the actual result once that action has been executed [14] [15]. The author will use this form of learning when beginning to understand how the School of Computer Science & Informatics and the School of Mathematics currently conduct their AMR processes.

The author will have discussions with the process owners and other stakeholders, collecting information and data, using that to build models, but not questioning the rooted assumptions and justifications for the way the Schools are currently executing their AMR processes (at this point).

Nevertheless, once the author has built the relevant models for both Schools, he will then begin to explore how they can be integrated, identifying conflicts, and questioning the rooted assumptions and justifications for the process steps and methods which are prevent direct integration of the AMR processes between the Schools. This is Double-Loop Learning.

Double-Loop Learning is when an entity such as people, organisations or groups question their rooted assumptions, ways of working and organisational policy when an expected result is not achieved after an action is executed [14] [15] [16]. This allows for significant change to take place, and for this project, will allow an agreement to be found and compromises agreed for an integrated AMR process.

To summarise, the author will use Single-Loop learning for building models of how both Schools currently execute their individual AMR processes. Followed by Double-Loop learning for questioning steps in current process models within the Schools, which prevent direct integration and require the questioning of rooted assumptions and justifications of how things are currently done, in order to propose feasible integrated AMR process models.
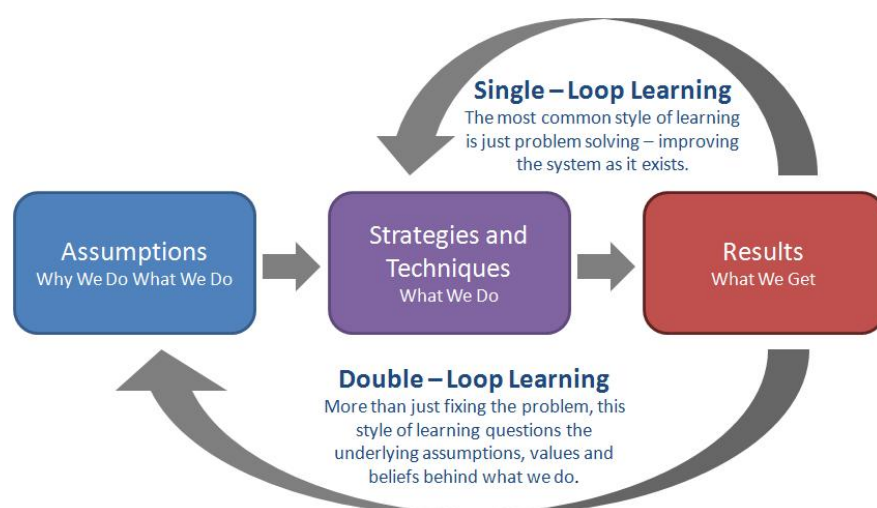
Figure 2 - Single and Double-Loop Learning

2.5 Cardiff University's Annual Module Review Process and its Components

At Cardiff University, there is an expectation at the Executive level that all Colleges and the Schools within them, actively reflect and review their modules on a yearly basis. The Annual Module Review process is the act of a University School of faculty and lecturers reviewing the current modules they are responsible for, confirming the accuracy of their modules and programme details which are held in the Student Information Management System (SIMS). Changes to programmes and modules could be based on student feedback, self-evaluation, new ideas, and meet new industry trends or to meet relevant industry accreditation.

At a central and executive University level, they outline two compulsory components of the AMR process:

1. The Classification of a Minor or Major Change
2. The Board of Studies

However, how these components are implemented and used, is the responsibility of the Schools within the University, all that is expected is that the desired output is met, which are changes being made to modules where needed.

The remainder of this sub-section of the project report will outline and describe the classification of a minor or major change, and the role a Board of Studies plays in an AMR process. Later in this project report, section 4.0 will detail specifically how the School of Computer Science and Informatics and the School of Mathematics make use of and implement these fundamental and compulsory components described by the University.

2.5.1 The Classification of Minor and Major Changes

There are two types of changes which can take place when an AMR is being executed, these are categorised as Minor or Major changes.

The author of this report communicated with Dr Martin Chorley who is the AMR process owner for the School of Computer Science & Informatics. According to those conversations, the following list of changes are what is normally considered and classified as a minor change according to central University policy:

- Approval of a new module (core & optional);
- Changes to module title;
- Credit change where credits move by merging or being diverted to other modules;
- Addition / deletion of optional modules;
- Changes to a module's learning outcomes;
- Changes to a module's teaching methods;
- Changes to method of assessment of a module;
- Changes to the type of assessment within a module;
- Changes to the assessment weighting within a module;
- Minor changes to a module description;

- Minor changes to a module indicative content/syllabus;
- Changes to an exit award title;

University policy does indicate that this list is not exhaustive and from time to time, other variations will become apparent. If there are queries from Schools, they are expected to contact their College Quality Officer. The College which the School of Computer Science & Informatics and the School of Mathematics fall under is the College of Physical Sciences and Engineering.

In terms of the classification of a Major change, according to Dr Martin Chorley, a Major change is anything which is not outlined in the classification list of a Minor change. If there are any concerns or confusion in terms of whether or not a specific change is Minor or Major, the Board of Studies, a School's AMR process owner and a School's Director of Teaching is expected to provide guidance and refer to the College Quality Officer if required.

In the event that a Major change is proposed, the change is referred to a separate process, which is managed centrally by the College of Physical Sciences and Engineering and is no longer part of the AMR process.

2.5.2 The Cumulative Effect of Minor Changes

Throughout University, many lecturers teach the same module(s) within schools for several years consistently and will make a range of minor changes over those years in an attempt to improve the overall quality of the modules being taught to their student bodies.

However, there is a documented risk by central University, which was referred to as "drift" by Dr Martin Chorley, whereby the accumulation of minor changes lead to a significant departure from the original aims, learning outcomes and assessment methods. It is deemed the responsibility of the Head of School, Director of Teaching, the School's AMR process owner and the School's Board of Studies to prevent drift, but also realise when this drift is occurring and address it accordingly.

2.5.3 The Board of Studies

The final compulsory component which is set out by central and at an Executive level of Cardiff University is the Board of Studies.

All programmes which are taught within Cardiff University must come under the aegis of a Board of Studies [10]. Cardiff University expects that the Head of Schools to create and establish a Board of Studies, to ensure the co-ordination of all academic and administrative matters associated with taught Programmes provided by the School [17].

The Board of Studies is composed of:
- at least one academic staff representative of each Module under the aegis of the Board of Studies; [17]

- at least one student representative, each Board of Studies can increase the number of additional student representatives as they deem suitable [17].

The core functions and responsibilities of the Board of Studies is as follows:

1. the Annual Review and Enhancement of programmes/ part programmes under the aegis; [10]
2. to consider and advise the School Board on policies and regulations relative to each Programme under their aegis on matters such as [17]:
   - admissions criteria
   - methods of assessment
   - academic progress of students
   - content and curriculum
   - programme development
   - equality and diversity issues
3. to advise the School Board on the method(s) of assessment for each Module or Unit of Study and, where appropriate, the relative contribution of each method of assessment to the mark for each Module or Unit of Study; [17]
4. to advise the School Board on adjustments to the prescribed Programme of Study and/or schedule of assessment for individual students, according to their Extenuating Circumstances and specific needs; [17]
5. to advise the Head of School on applications for entry with advanced standing [17].

From further communications with Dr Martin Chorley, when a Board of Studies (irrespective of the School) is reviewing changes to modules, the following considerations may be taken into account at this stage:
- What is the overall impact on the programme if more than one module is being changed (up to 40 credits)?
- Does this impact on the programme affect learning outcomes?
- What is the impact on the student experience?
- Have students been consulted about the changes? (Formal feedback will be required);
- Does it impact on other programmes? (Consideration of Joint Programmes);
- Are any further resources needed? (Staffing, IT, Library, teaching rooms);
- Have the potential implications of Competitions and Markets Authority guidance been considered?
- Has the proposal been Equality Impact Assessed?

In regard to this project, the Board of Studies' functions outlined in (1), (2) and (3) are the ones which are exercised and executed with the most relevance for the Annual Module Review process.

3. Methods

This section of the report will outline and describe the methods which will be used to complete this project and attempt to achieve the objectives outlined in the project plan and in the introduction section of this project report.

3.1 Role: Business Analyst and Business Analysis

The author will approach this project in the role of a Business Analyst. Business Analysis is the practice of enabling change in an enterprise by defining needs and recommending solutions that deliver value to stakeholders [18]. It enables an enterprise to articulate needs and the rationale for change, and to design and describe solutions that deliver value [18]. Finally, a Business Analyst documents an organisation's processes or systems, assessing current models for potential integration. The author has previous experience as a Business Analyst at General Electric, where he embarked on a 12-month sandwich year placement.

3.2 Phase One: Building of Current Models in both Schools

3.2.1 Interviews & Discussions – Process Owners

The project will begin with the author conducting three interviews with the process owner of the AMR process in each School.

- **Meeting 1: Foundation** – 30-minute discussion understanding the foundations and workflow of how the AMR process is conducted within the School.
- **Meeting 2: Workflow Review** - based on the information received from the first meeting, the Author goes away and develops a workflow, representing the process steps of the AMR process in each School. The second meeting focuses on reviewing that workflow and asking further questions which have occurred when developing the first iteration of the workflow model.
- **Meeting 3: Powers and Responsibilities** – final meeting to understand the powers, responsibilities and constraints of the agents within the AMR process in each School, allowing the author to understand the potential actions that can be taken in the process, and the effect they can have depending on the agent exercising their power or responsibility.

The author has decided to use interviews as it is a method which provides a way to investigate issues in great depth, understand how individuals think and feel about a certain topic, and aids in providing a deeper understanding of codified information [19]. Ultimately, this method will provide the following advantages to the project:

- Promotes collaboration and a high response rate [19]
- Facilitates the extraction of detailed information [19]
- Ambiguities can be clarified, and incomplete answers completed [19]

3.2.2 Building Workflow Models

After completing these meetings, the author will use all the information which has been documented and collected to create a final workflow model of the AMR process. This allows for the project to clearly outline the steps that each School takes to complete their AMR for central University.

The workflow process model will be built using flowcharts. A flowchart is a graphical or symbolic representation of a process [20]. Each step in the process is represented by a different symbol and contains a short description of the process step [20]. The flow chart symbols are linked together with arrows showing the process flow direction [20].

The author has decided to use flowcharts as the method to build workflow models for this project, as it will provide the following benefits and advantages:

- **Visual Clarity** – provides an easy understanding of the workflow for a process [21]
- **Effective Communication** – aids in clarifying processes, and for others to gain a quick understanding of what is expected within a process [21]
- **Opportunity for Analysis** – specifically shows what type of action in each step requires [21]
- **Problem Solving** – provides a way to break up complex problems into easily definable parts [21]
- **Proper Documentation** – serves as good paperless documentation [21]

The author will build and create the flowcharts using Draw.io (https://www.draw.io/). Draw.io is a completely free online diagram editor built around Google Drive™, that enables you to create flowcharts, UML, entity relation, network diagrams, mock-ups and more [22].

Alongside the AMR workflow process model, a detailed process description is written by the author to complement the workflow model for each School.

The author has decided to write a detailed process description alongside the workflow model because it will help add context, and further details to the model, aiding in providing the reader with greater clarification, as well as be useful and effective from a document perspective, where it can be referred to for future reference.

3.2.3 Creating Semi-Formal and Human-Readable Business Rules

The author of this project will be making use of business rules with an emphasis on human readability over machine readability, using semi-formal rules to articulate and clearly describe the AMR process for the School of Mathematics, and the School of Computer Science and Informatics. It will provide an opportunity to show the roles and tasks executed within each process by each agent, in greater detail.

Business Rules are structured and well-defined pairs of condition and action statements, a rule is independent and atomic, as this makes them easy to test and execute [23], as well as easy to communicate to others.

The type of Business Rules the author will take inspiration from are Event-Condition-Action (ECA) rules. ECA rules refer to the structure of active roles in event driven architecture and active database systems [24]. An ECA rule consists of three parts:

1. The *event* specifies the signal which triggers the rule [24]
2. The *condition* part is where a logical test takes place, if the logical test is satisfied or is true, then an action is carried out [24]
3. The *action* is an event, task or action which is executed invoking an update or change [24]

The Business Rules will be used to provide explicit and clear defining statements which allow the School of Mathematics and the School of Computer Science and Informatics to have semi-formal documentation laying out their unintegrated AMR processes, as well as future integrated one(s).

Phase One will be completed twice. Once for the School of Computer Science and Informatics to build a detailed model of their current AMR process. And once for the School of Mathematics to build a detailed model of their current AMR process.

3.3 Phase Two: Developing an Integrated Model

Once the author has executed Phase One twice, once for the School of Computer Science and Informatics and once for the School of Mathematics, the author will then begin to explore possible integration between the two ways in which the Schools' implement their AMR.

The author will begin by conducting an analysis and comparing the two models of the AMR process which are currently used within the Schools, to identify where there are potential conflicts between the processes which prevent integration being possible.

Finally, the author will develop two variations of an integrated AMR process, both with a workflow model and a set of ECA inspired business rules. One which focuses on speed of execution as being the dominating requirement of the process, and one which focuses on governance and diligence as being the dominating requirement of the process.

3.4 Method – Planned Workflow of Implementation

Below outlines the author's planned workflow of utilising the methods outlined in this section of the project report, with the ultimate aim of achieving the objectives of this project, outlined in section 1.4.
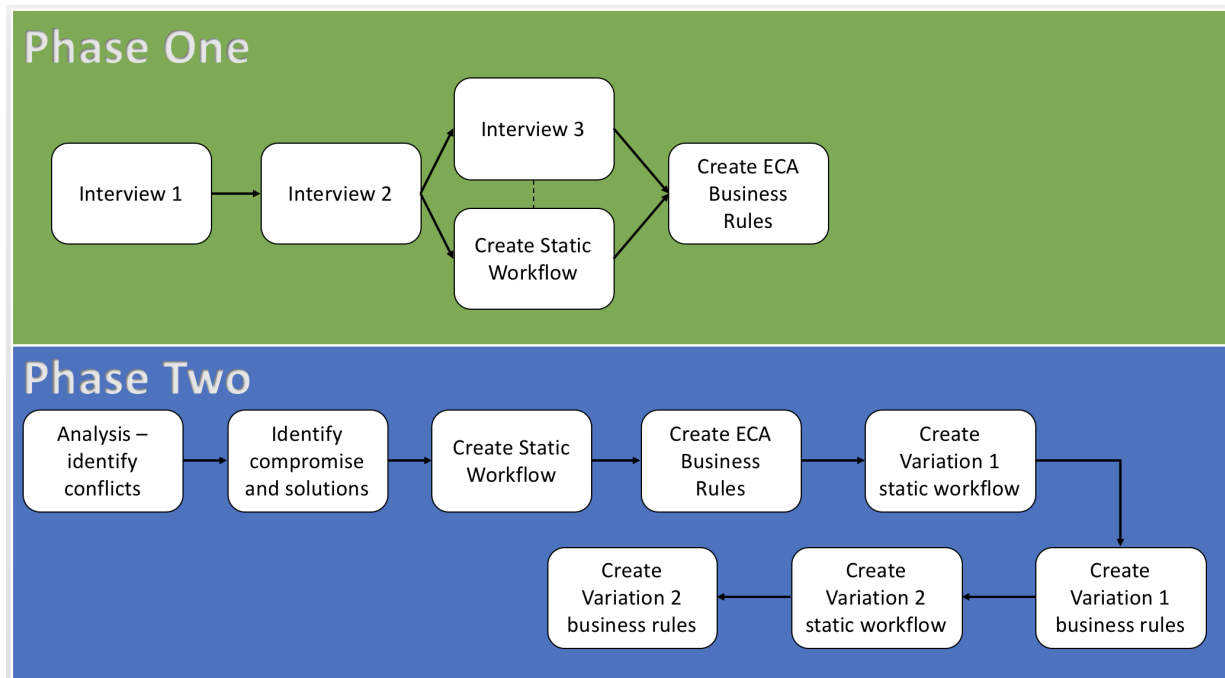
Figure 3 - Planned Workflow

Phase One is repeated twice in order to model, structure and document the current method of executing the Annual Module Review process within both Schools. Note to reader, that after Phase One has been executed twice, the author informally discusses and shows each AMR Owner how the other School currently executes their annual module review to gauge their opinion and receive feedback on how a potential integrated process could work.

Following the execution of Phase One twice, Phase Two focuses on developing, modelling, structuring and documenting two variations of an integrated annual module review process.

4. Modelling

This section of the report will explain, present and illustrate the current processes used in both the School of Computer Science and Informatics and the School of Mathematics to execute their AMR process, and as a result meet their obligations to the policy set out by central University and the Cardiff University Executive Board.

This section is structured by splitting it into two parts. The first part is for the modelling of the School of Computer Science and Informatics AMR process, and the second part, is for the modelling of the School of Mathematics AMR process. For each part, and as a result for both Schools, this section of the report will have a workflow model, a detailed description to explain the process, and a set of business rules, to represent the ways in which the Schools execute their current AMR processes. It is important to note that this section solely focuses on modelling how things are currently executed within both Schools, and not a potential integrated approach, that is discussed later in section 5.3.

4.1 School of Computer Science & Informatics – Static Workflow Model & Detailed Description

The workflow model can be found under Appendix A of this project report. The syntax followed to create this flowchart can be found here:
https://www.smartdraw.com/flowchart/flowchart-symbols.htm

In order to acquire the necessary information to build the workflow model, the author met with Dr Martin Chorley, who is the process owner of the AMR process for the School of Computer Science and Informatics. Dr Chorley is responsible for ensuring that the School of Computer Science and Informatics meet the module review and enhancement obligations set out by central University and the Cardiff University Executive Board.

Before detailing and describing the execution of the AMR process, an interesting fact presented by Dr Martin Chorley to the author, is that the School has never conducted the AMR process the same year-on-year, there has always been forms of variation and as a result there has never been formal documentation. Therefore, the author sees building the workflow model as the first opportunity to create a type of formal structure which could contribute to formal documentation on how the School of Computer Science and Informatics currently conduct their AMR process, which could be referred to in the future if required.

Please note this model was signed-off by Dr Martin Chorley before detailing it in the project report, who has stated that he is satisfied by the representation of the AMR process for the School of Computer Science & Informatics by this workflow model (Appendix A).

To build this model, as seen in Appendix A, the author collated a range of information across three interviews as described in section 3.0 of this report, and iteratively developed the

workflow model using that information. On the final iteration of the workflow model, the author noticed that the AMR process, in terms of its application and method of execution could be split into four main phases. The four phases of the AMR process within the School of Computer Science and Informatics is as follows:

1. **Planning and Preparation** – this phase and type of step within the AMR process in the School of Computer Science and Informatics focuses on laying the foundations to ensure a smooth execution throughout the process, specifically with an aim to ensure that all work can be planned and as a result completed within the timeframe. These steps are represented within the static workflow model as blue.

2. **Collection and Documentation** – this phase and type of step within the AMR process in the School of Computer Science and Informatics focuses on the School collecting the relevant changes that lecturers want to make to their respective modules and programmes, specifically by the lecturer's documenting and codifying those changes within a repository for the process owner to see, and eventually the Board of Studies too. These steps are concentrated early on within the workflow model, and are represented as red.

3. **Consultation and Review** – this phase and type of step within the AMR process in the School of Computer Science and Informatics focuses on the School consulting, reviewing and requesting input and opinions on the proposed changes by the lecturers for their respective modules, including from a student perspective and as an academic body within the department (fellow lecturers). This phase and type of step take up the majority of time and resources within the process and is represented as green.

4. **Data Inputting** – this phase and type of step within the AMR process in the School of Computer Science and Informatics focuses the School inputting all the relevant module changes into the SIMS as requested by the University registry. The School will also take the time to update any other mediums or platforms which may contain the old information for that module. This phase and type of step is concentrated in the latter and final stages of the process and is represented as yellow.

As mentioned, under Appendix A, a full workflow model can be found for the reader. However, as the author discusses in detail the workflow model, the author will take snapshots of the relevant parts of the process in discussion.
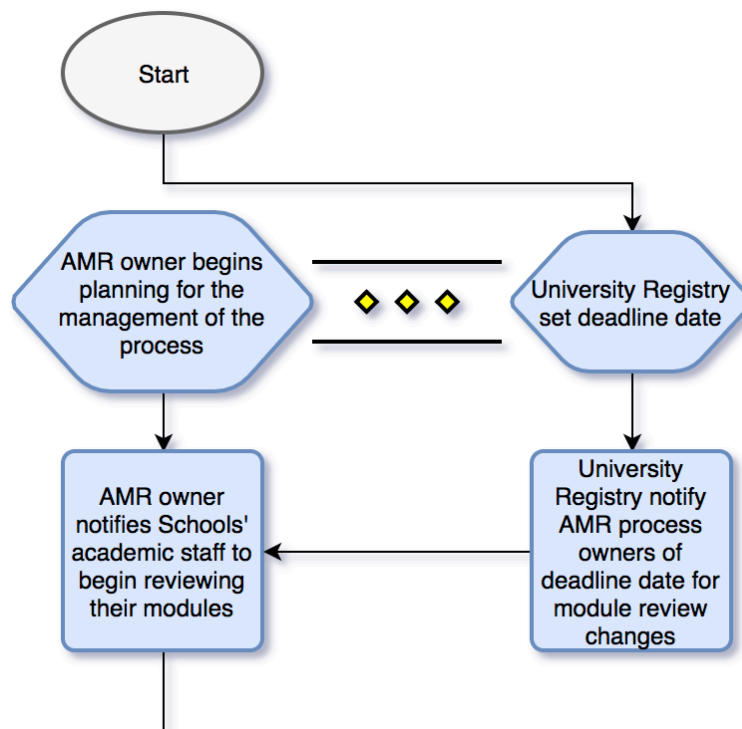
Figure 4 – Computer Science AMR Process (Part 1)

The start of the AMR process within the School of Computer Science and Informatics begins in the December / January period of every academic year. Alongside and in parallel with the University Registry deciding on a deadline date for all programme and module changes to be submitted into the SIMS, the AMR owner within the School of Computer Science and Informatics spends between two to four weeks planning and preparing to manage the AMR process, ensuring that the process is executed effectively and smoothly. The time spent on the planning and preparation can vary depending on if the BCS – IT Chartered Institute is reviewing the programmes within the School that academic year, which could see additional time spent on this step, as further consultation with the School Board, Director of Teaching and the Head of School is required.

Once the University Registry have confirmed a date in which all programme and module changes must be uploaded to SIMS, they will notify the AMR owners of all Schools within the University of this date. Once the AMR owner within the School of Computer Science and Informatics has received that final date from the University Registry, they will identify a deadline in which they expect their and lecturers to make all their changes by. After the AMR owner has identified this date for their plan, they will notify all lecturers within the School to begin reviewing their modules.

Figure 4 outlines the Planning and Preparation phase of the AMR process within the School of Computer Science and Informatics, which has a duration of two to four weeks.
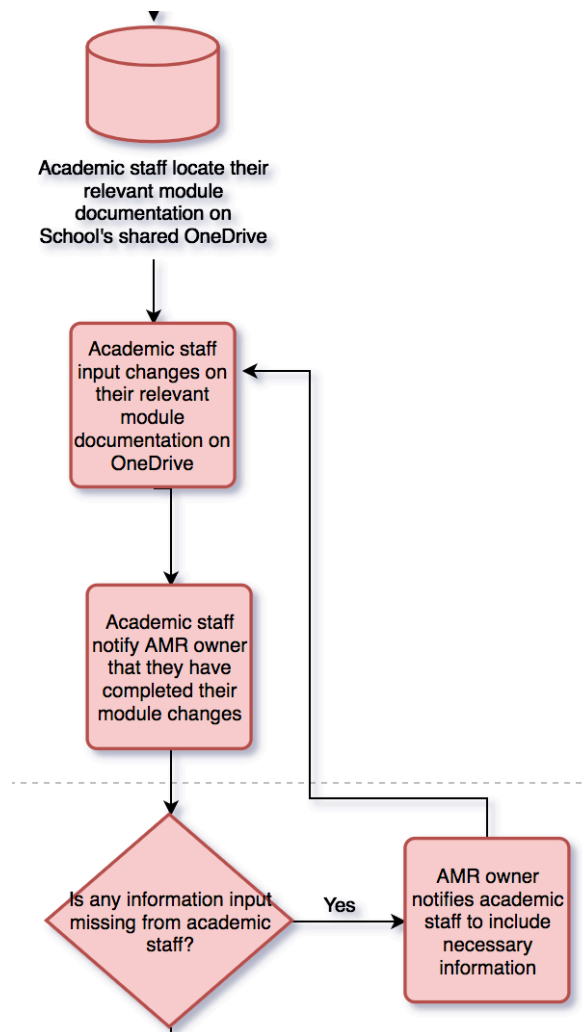
Figure 5 - Computer Science AMR Process (Part 2)

Once the AMR owner notifies all lecturers that they need to begin reviewing their modules, the lecturers are expected to go onto the School's Microsoft OneDrive, locate their specific module document, ensure 'tracking changes' is enabled and then begin editing the document and completing the necessary details set out by the AMR owner, Director of Teaching (DoT) and the School Board, as well as the changes they wish to make to their respective module(s).

After the lecturer has completed all the additions and details required, they then notify the AMR owner via email that they have completed all their changes for their Annual Module Review.

Next the Director of Teaching and the AMR owner will check the respective module documents which have been edited and completed by the lecturer who has sent notification of completion, checking to ensure that all necessary details have been completed and that the changes they have made are clear and obvious. In the event, that any necessary or expected details are not provided within the Word document which has been set out by the AMR owner

and Director of Teaching, then the AMR owner notifies the relevant lecturer of the details they need to complete, expecting a notification after they have done those for another check.
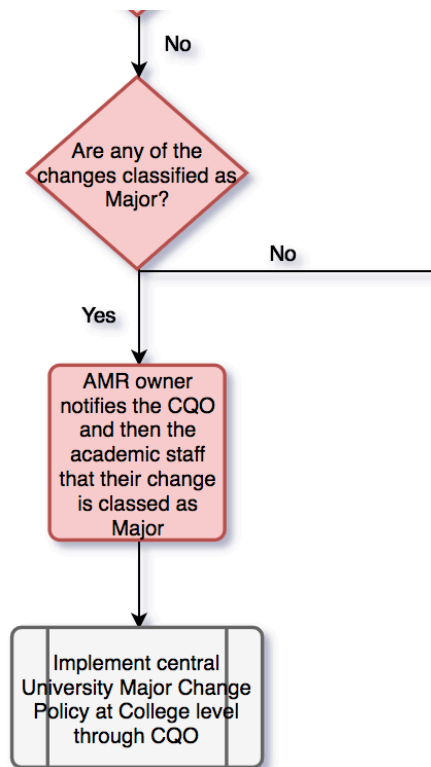
Figure 6 - Computer Science AMR Process (Part 3)

Following on from a check by the Director of Teaching and the AMR owner that all necessary details have been completed and changes have been documented within the relevant Word Document on the Microsoft OneDrive, the Director of Teaching and AMR owner will review the changes proposed by the lecturer to ensure that it is in fact a Minor change and not a Major change which requires a separate process.

In the event that the AMR owner and Director of Teaching suspect that a change is a 'Major' change, they will contact their College Quality Officer (CQO) within the College of Physical Sciences and Engineering, seeking advice and consultation. If the CQO identifies the proposed change as a Major change rather than a Minor change, the relevant lecturer is notified, and a separate University Major change policy is initiated at College level. The University Major change policy is set out at College level and as a result is not covered as part of this project report.

Figure 5 and 6 outlines the Collection and Documentation phase of the Annual Module Review process within the School of Computer Science and Informatics, which has a duration of three to five weeks.
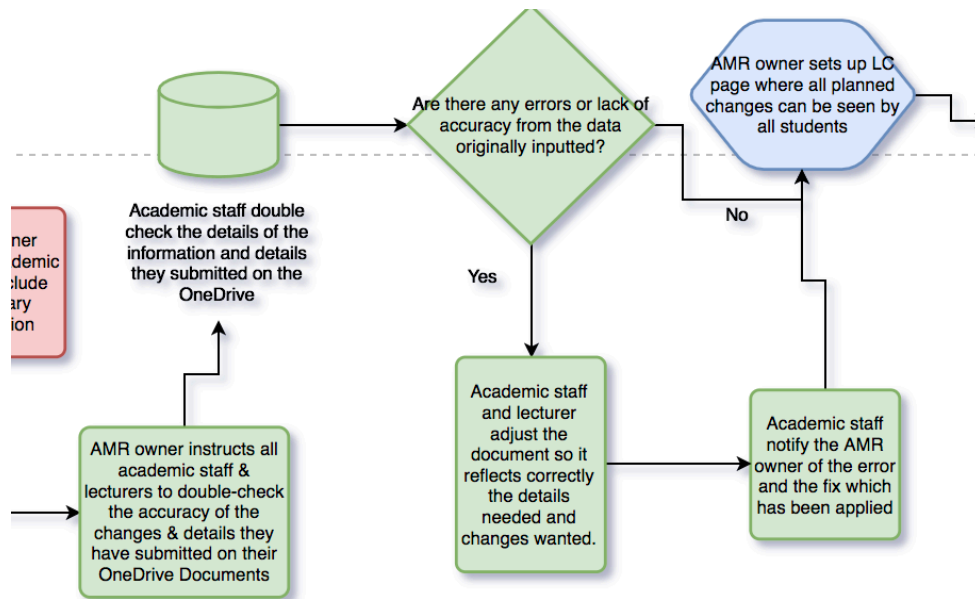
Figure 7 - Computer Science AMR (Part 4)

After all lecturers have inputted their changes and the necessary details on their respective and relevant module documents on the School's Microsoft OneDrive, across usually a 3 – 5 week period, the AMR owner will then notify all lecturers to check their changes one last time to ensure the highest level of accuracy before they are presented to students for consultant and a final input into SIMS.

If lecturers notice any inaccuracies or errors in the information or details with their respective and relevant module documents on the School's Microsoft OneDrive, the Lecturer will adjust the document to issue a correction. Followed, by notifying the AMR owner of the error and inaccuracy and the way in which it has been addressed.

Subsequently, when the lecturers have finished a final accuracy check, the AMR owner will then setup a page on Learning Central where the AMR owner will then upload all the planned changes to the relevant modules and programmes.
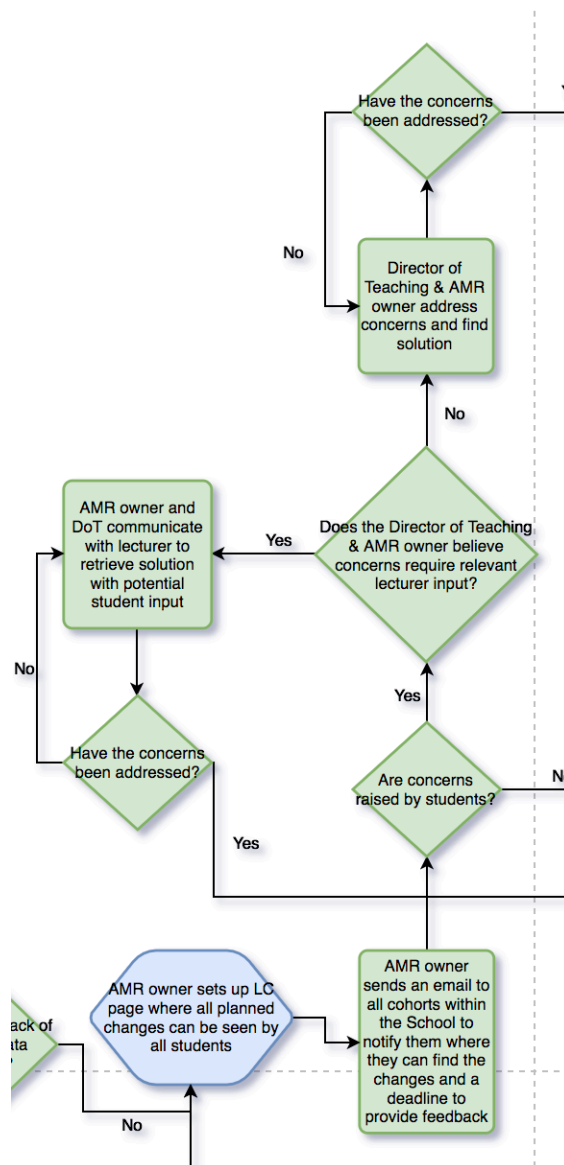
Figure 8 - Computer Science AMR (Part 5)

After the AMR owner has setup the Learning Central page and uploaded all the planned changes across all the modules and programmes for the student body to examine. The AMR owner will then send an email notifying all student year groups and cohorts where they can locate all the planned changes, asking if they have any feedback or concerns to email the AMR owner. The AMR owner will give a week deadline for this additional feedback to be collected.

In the event a student raises a certain concern or piece of feedback it will be noted down. The Director of Teaching and the AMR owner will then review that concern or piece of feedback and decide whether or not they require lecturer input or if they can be dealt with separately by just the AMR owner and the Director of Teaching.
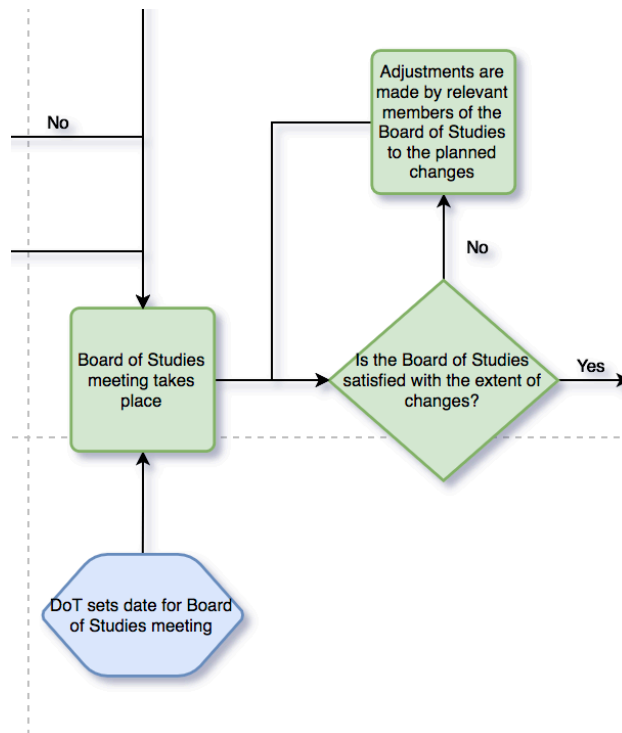
Figure 9 - Computer Science AMR (Part 6)

Following on from a final accuracy check of the details and module changes submitted by lecturers and a student consultation via the Learning Central page, collecting feedback through email or verbal correspondence, which takes between two to three weeks to complete. The AMR owner will then begin preparing for the Board of Studies meeting within the School of Computer Science and Informatics.

The date of the Board of Studies will be decided in advance, as part of the planning and preparation stage early on in the process by the Director of Teaching.

Once the date of the meeting arrives, an afternoon will be spent by the Board of Studies executing its functions which are outlined in sections 2.5.2 and 2.5.3 of this project report.

If concerns are raised by fellow lecturers in regard to certain changes being proposed for a module or programme for the following academic year, it will be discussed in the Board of Studies meeting, and if necessary the Director of Teaching and AMR owner will plan further appropriate action based on the concern or issue identified.

Figures 7, 8 and 9 outlines the Consultation and Review phase of the Annual Module Review process within the School of Computer Science and Informatics, which has a duration of two to three weeks.
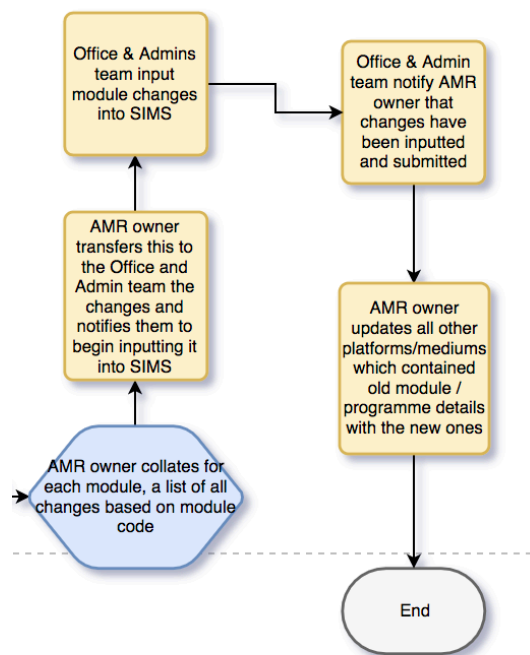
Figure 10 - Computer Science AMR (Part 7)

Consequently, from the Board of Studies meeting being concluded and satisfied in signing off changes to the modules and programmes, the AMR owner will then begin to collate just the changes which need to be made for each module, against its relevant module code.

The AMR owner will then send this document to the Office and Administrative team, who will then input the changes into the Student Information Management System. On completion of this data input, the Office and Administrative team will notify the AMR owner of its completion and submission.

Finally, the AMR owner will then update any material which may include old information regarding any of the modules which are set to be changed for the next academic year, if that material or system is unable to update itself by pulling the new data via SIMS. This phase of the process (data input) takes between two to three weeks.

Figure 10 outlines the Data Inputting phase of the Annual Module Review process within the School of Computer Science and Informatics, which has a duration of two to three weeks.

This concludes the School of Computer Science and Informatics Annual Module Review process.

4.2 School of Computer Science & Informatics – AMR Process Speed of Execution

From discussions with Dr Martin Chorley the time it takes to complete the AMR process is as follows (first number represents minimum duration, second number is maximum duration):

- Planning and Preparation (blue): 2 to 4 weeks
- Collection and Documentation (red): 3 to 5 weeks
- Consultation and Review (green): 2 to 3 weeks
- Data Inputting (yellow): 2 to 3 weeks

Therefore, minimum duration for executing the AMR process in terms of speed of execution is 9 weeks, approximately two months. Whereas, the maximum duration for executing the AMR process in terms of speed of execution is 15 weeks, almost four months.

Total:

Minimum Duration: 9 weeks (approx. 2 months)
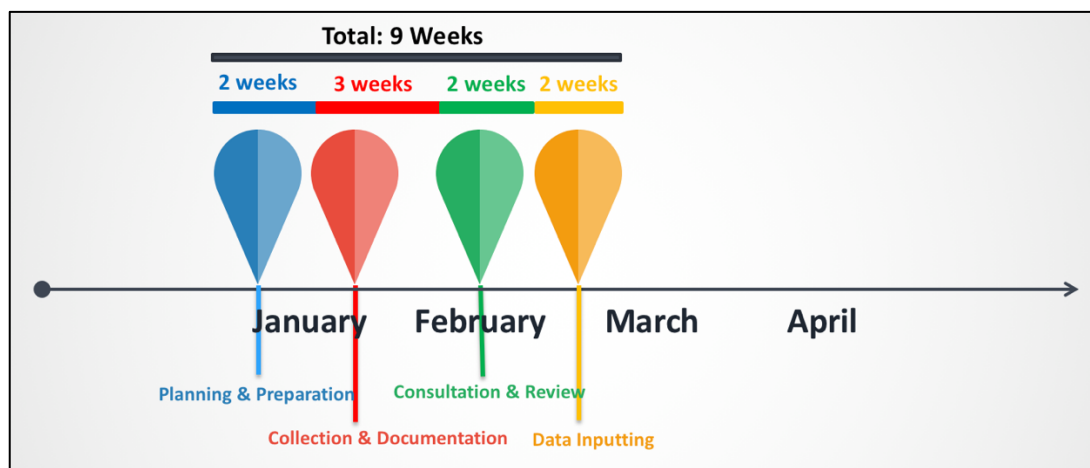
Figure 11 - ComSci Best-Case Scenario AMR Duration

Maximum Duration: 15 weeks (approx. 4 months)
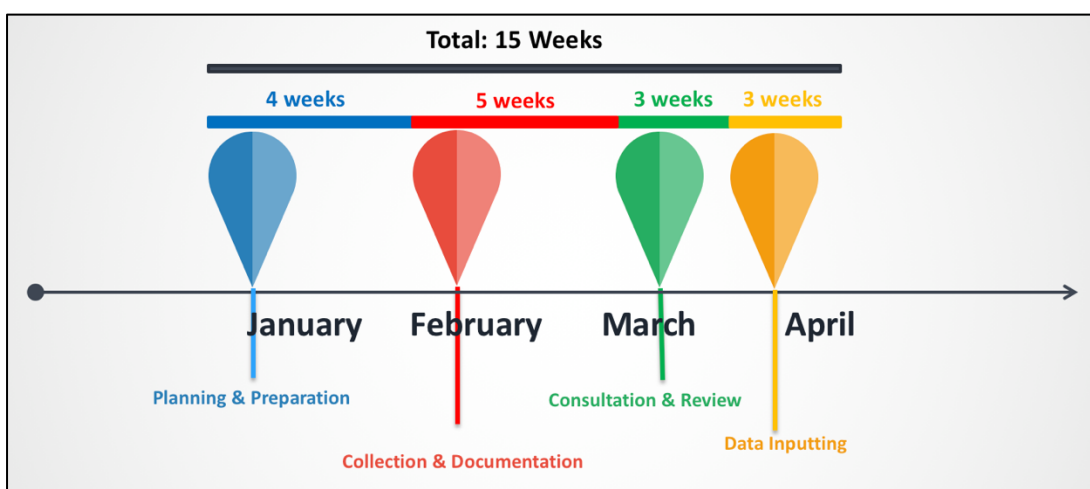
Figure 12 - ComSci Worst-Case Scenario AMR Duration

Possible delays which can prevent the minimum duration being achieved, when executing the AMR process within the School of Computer Science and Informatics, includes:

- **Planning and Preparation Phase:**
  - BCS IT Charted Institute year of programme reviews, will require additional planning and preparation time
- **Collection and Documentation Phase:**
  - Technical and system issues which prevent the collection and documentation of potential module changes – i.e. OneDrive unavailable.
  - Industrial action - lecturers strike preventing them from conducting any day-to-day work which means they will not be collecting and documenting their potential module changes
- **Consultation and Review Phase:**
  - Difficulty in the logistics of finding a date or location for the Board of Studies
  - Significant and complex issues arise in the Board of Studies meeting which requires addressing and further discussion
- **Data Inputting Phase:**
  - Technical difficulties with the Student Information Management System (SIMS) prevent the uploading and inputting of new module changes
  - Significant number of the Office and Administrative team are absent, causing a lack of enough personnel to complete the data inputting and uploading

It is worth noting that phases take place in a chronological fashion, and as a result a delay in an earlier stage will have a rolling impact on future stages within the process, in terms of total time required to execute the process.

The list above is not exhaustive but provides an insight into potential challenges which could lead to the duration of execution of the AMR process extending from minimum duration to the maximum duration, or somewhere between those two parameters.

4.3 School of Computer Science & Informatics – ECA Business Rules

To correspond alongside the workflow model in the form of a flowchart and a detailed description, this sub-section of the project report describes a set of semi-formal business rules for the School of Computer Science and Informatics AMR process. These semi-formal business rules take inspiration from Event-Condition-Action rules in databases, as well as emphasising the need of human readability rather than machine readability.

As the author mentioned previously in this project report, there is no formal documentation on the AMR process within the School of Computer Science and Informatics, and this provides an opportunity with the business rules to outline, the actions and tasks executed by the agents within the process.

The business rules will be grouped by agent within the process, for example, by AMR owner with a list of all their relevant rules grouped within that table. This allows the reader to identify

what actions and tasks can be executed by each agent within the process based on a certain condition or logical test being TRUE.

The following outlines a shell and an example of how a business rules can be presented:

AGENT NAME			
Rule Name			
Rule Number	**Rule Condition**	**Rule Action / Task**	**Rule Note**

The AGENT NAME (ACRONYM) outlines to the reader which agent is responsible for the business rules within the table.

The RULE NAME acts as a tag and annotation to a specific rule which contains a set of conditions, actions and tasks. The rule name also provides good documentation for others to reference and locate the relevant rules they are looking to locate.

The RULE NUMBER acts as another unique identifier alongside the rule name, allowing for effective referencing to a rule which contains a set of conditions, actions and tasks.

The RULE CONDITION outlines the logical test which must be found TRUE, in order for a certain action or task to be executed by an agent to update, change and affect the status of the Annual Module Review process.

The 'RULE ACTION / TASK' outlines the activities and steps which will be taken by the agent as a result of a 'CONDITION' being found logically TRUE.

The 'RULE NOTE' provides further specifics and attached details to each business rule, to provide greater context and understanding to the reader, emphasising the human-readability of the business rules which the Author specified previously.

List of agents within the Computer Science and Informatics Annual Module Review process, which are relevant for the list of Business Rules below, includes:
- University Registry
- AMR Owner
- Lecturer(s)
- College Quality Officer
- Student(s)
- Office and Administrative Team
- Board of Studies
- Director of Teaching

Along with the agents, there are a set of systems which are used within the School of Computer Science and Informatics Annual Module Review process, which are referenced throughout these business rules, these systems are the following:

- Microsoft OneDrive
- Learning Central
- Student Information Management System (SIMS)

The Business Rules for the School of Computer Science and Informatics unintegrated annual module review process can be found in **Appendix I**.

There is a total of 56 business rules for the Computer Science and Informatics Annual Module Review process.

The way in which the business rules are displayed and presented serve the purpose of linking a set of business rules with the relevant agent, making clear the responsibilities of each agent within the School of Computer Science and Informatics AMR process.

The Author strongly believes that this view is the most effective way to achieve the depiction of the agent's responsibilities. However, the Author is aware that this view fails to depict the sequence in which these business rules are executed. In consequence the Author has developed a UML Sequence Diagram (Appendix C) which can be used alongside Appendix G to provide a high-level narrative of how the Computer Science AMR business rules are executed sequentially, as well as highlight the communication between the different agents within the process in an attempt to achieve the process's objective.

Note to the reader, when examining the business rules or Appendix C and Appendix G, a range of colours are used as a form of highlighting to distinguish certain rules. The colours have the following meaning:

- **Planning and Preparation** – *Blue*
- **Collection and Documentation** – *Red*
- **Consultation and Review** – *Green*
- **Data Inputting** – *Yellow*

The colour of the highlighted business rule refers to the phase in which that business rule belongs to.

4.4 School of Mathematics – Workflow Model

The workflow model can be found under Appendix B of this project report. This workflow model was created using draw.io in the form of a semi-formal flowchart. The syntax followed to create this flowchart can be found here:
https://www.smartdraw.com/flowchart/flowchart-symbols.htm

In order to acquire the necessary information to build the workflow model, the author met with Dr Alastair Clarke, who is the process owner of the AMR process for the School of Mathematics. Dr Clarke is responsible for ensuring that the School of Mathematics meet the module review and enhancement obligations set out by central University and the Cardiff University Executive Board.

Before detailing and describing the execution of the AMR process, an interesting fact presented by Dr Alastair Clarke to the author, is that the School has no formal documentation currently, in terms of how the AMR process within the School is executed and implemented. Therefore, the author saw building the workflow model as the first opportunity to create a type of formal structure which could contribute to formal documentation on how the School of Mathematics currently conduct their AMR process, which could be referred to in the future if required.

Please note this model was signed-off by Dr Alastair Clarke before detailing it in the project report, who has stated that he is satisfied by the representation of the AMR process within the School of Mathematics by this workflow model (Appendix B).

To build this model, as seen in Appendix B, the author collated a range of information across three interviews as described in section 3.0 of this report, and iteratively developed the static workflow model using that information.

In order to ensure consistency and continuity within this project, the author applied the four main phases derived for the School of Computer Science and Informatics within their process, for Mathematics too. This is in an attempt to aid future investigation into how the two processes can be integrated. A reminder of the four phases, and what each colour within the model refers to can be found in section 4.1.

As mentioned, under Appendix B, a full workflow model can be found for the reader. However, as the author discusses in detail the workflow model, the author will take snapshots of the relevant parts of the process in discussion.
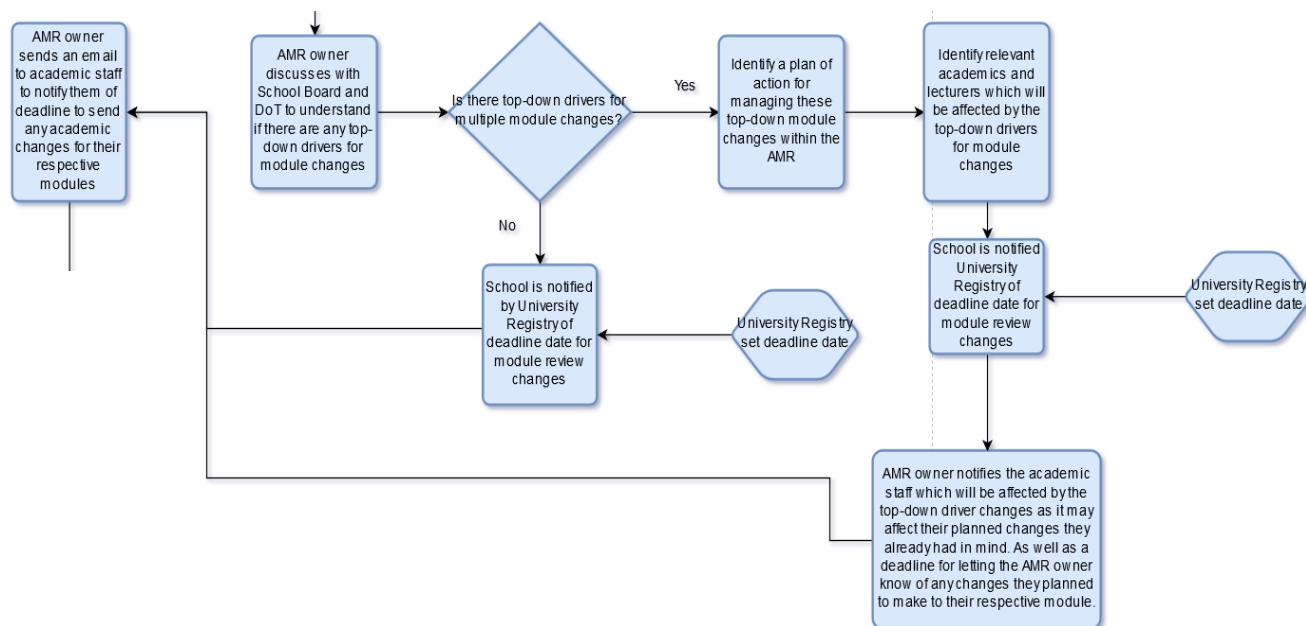
Figure 13 - Mathematics AMR (Part 1)

The AMR process within the School of Mathematics starts at the beginning of the academic year, in the autumn period between September and December. Within this period discussions will take place between the AMR owner, the Director of Teaching and the School board to decide whether or not top-down enforced module changes will be part of the AMR that year.

If there is a top-down enforced change:
Top-down enforced changes are when the School's senior management team derive that certain changes need to be made to certain programmes and modules, in order for the School to meet its strategic objectives and direction. For example, a consolidation and simplification strategic objective could lead to the School merging 10 credit modules, to create 20 credit modules, which will have an obvious impact on certain lecturers' module review and enhancement that academic year.

Therefore, the first step which is taken within the AMR process, between the School Board, Director of Teaching and AMR owner is to discuss whether these top-down changes need to take place.

In the event that, top-down changes will be enforced upon certain programmes and modules, the AMR owner and Director of Teaching will begin to identify a plan of action for managing those changes, and the direct impact it will have on the usual AMR process.

Once a plan of action has been created by the AMR owner and shared with the Director of Teaching, they will then begin to identify the relevant modules and programmes which will be affected by the top-down enforced changes, and make note of them, followed by the relevant lecturers also affected.

The AMR owner and Director of Teaching will have preliminary discussions around these top-enforced changes with the relevant lecturers, so they can prepare themselves for when they need to begin module review and enhancement.

At this point within the process, it will be around January, and the School of Mathematics AMR owner will be awaiting confirmation from the University Registry of a final deadline date for all modules changes to be uploaded into the Student Information Management System.

Upon the AMR owner receiving the deadline date, the AMR owner will then notify all the lecturers who have been affected by the top-down enforced changes of the deadline date in which to provide their planned module changes. Specifically, reminding them of the top-down enforced changes which will have an effect on their modules, so they can make relevant and appropriate modules changes for the next academic year, taking into account this additional factor.

Upon receiving a final deadline date from the University Registry, the AMR owner will email all lecturers (unless they have already been emailed due to being affected by top-down enforced changes) notifying them to begin their module review and enhancement of the modules and programmes they teach, along with a deadline in which to email those changes to the AMR owner (separate deadline from the University Registry one, this one is set by the AMR owner for their convenience).

If there is NOT a top-down enforced change:
In the event that there are NO top-down enforced changes planned upon certain modules and programmes, the AMR process is then delayed until January, whereby the School of Mathematics will await the confirmation from the University Registry of the final deadline date for all module and programme changes to be uploaded into SIMS.

Figure 13 on the previous page, and the description and explanation which follows it, outlines all the preparation and planning which takes place within the AMR process for the School of Mathematics. As you can see there are two scenarios, either top-down changes are enforced that year, or they are not. In the event that there are top-down enforced changes required, more planning and preparation is taken and continues from the autumn period up to January when they will receive a deadline by the University Registry. However, if there are NO top-down enforced changes that academic year, the AMR process is suspended after the autumn period until the AMR owner receives a final deadline by the University Registry in January.

The Planning and Preparation phase for the AMR process within the School of Mathematics can take between 1 and 5 weeks, this phases duration is dependent on whether or not top-enforced changes are planned.
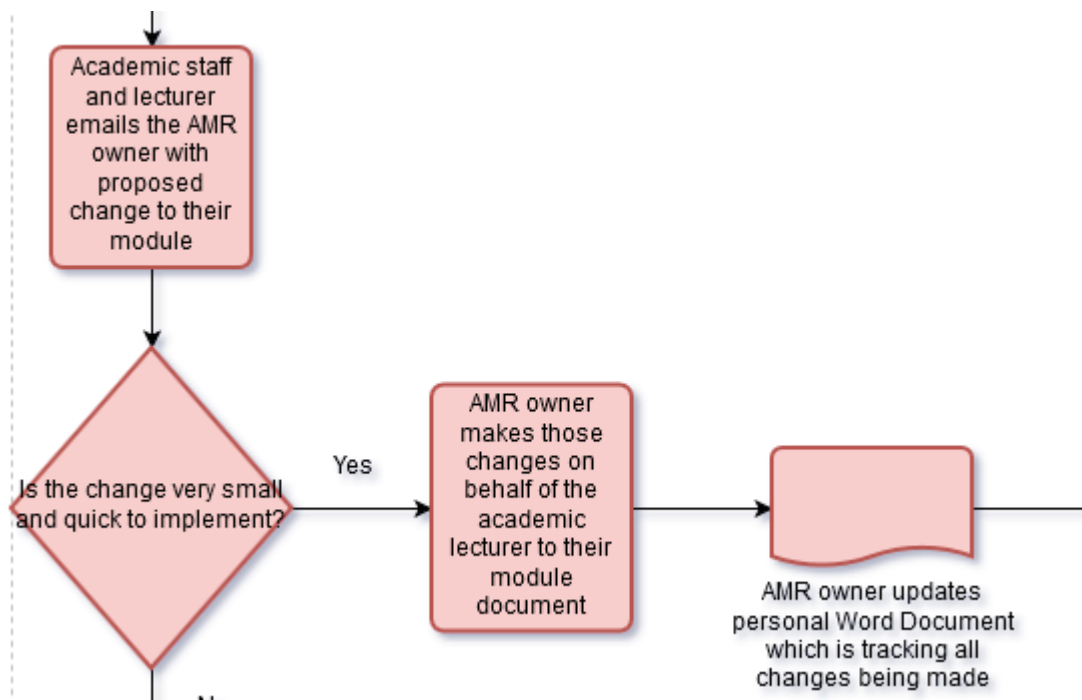
Figure 14 - Mathematics AMR (Part 2)

After the lecturers have received that email from the AMR owner, they will begin reviewing their relevant modules and programmes they are involved with. Once, the lecturers understand the changes they want to make, they will note those down and send them to the AMR owner via email.

If the proposed changes are small and quick to implement, the AMR owner will update those changes to the relevant module documentation on behalf of the lecturer. Followed by the AMR owner updating their own personal Word Document - tracking all the changes being made in the AMR process for that academic year - for the AMR owner's reference for the data inputting stage and the Board of Studies meeting.
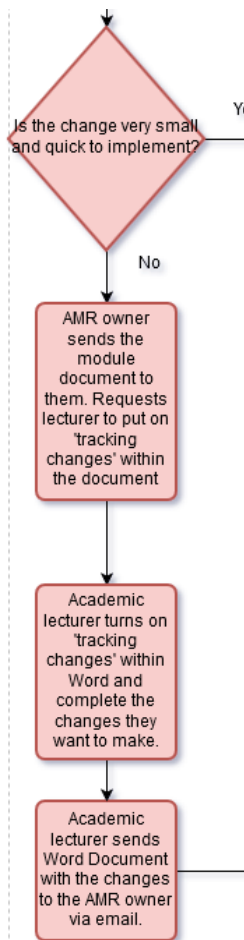
Figure 15 - Mathematics AMR (Part 3)

If the proposed changes are NOT small and quick to implement on the module documentation and have a degree of complexity or great detail, the AMR owner will then send the module documentation from the network shared S Drive to the lecturer for themselves to make the changes.

The AMR owner will request that within the relevant module document on Word, before the lecturer begins to input their planned module changes, they select the 'tracking changes' option, to make it easy for the AMR owner to distinguish what the new planned changes for that module are.

On the completion of the lecturer inputting their changes on the relevant module document(s) in Word, they will save their changes and email it to the AMR owner for review.
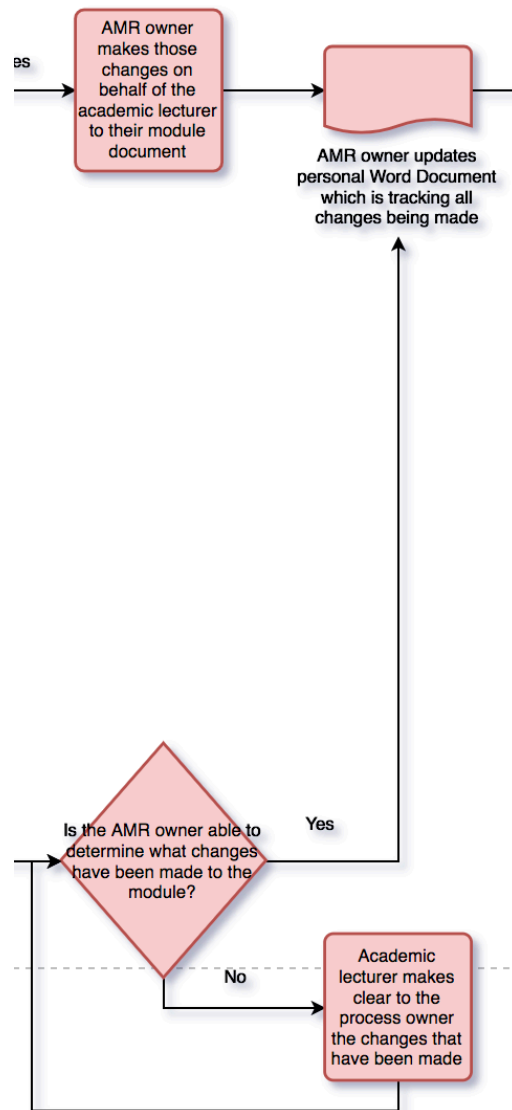
Figure 16 - Mathematics AMR (Part 4)

Upon the AMR owner receiving the documentation from the lecturer, the AMR owner will conduct a check to ensure that they can determine and understand what changes have been made to the module documentation.

If the AMR owner is unable to understand and determine what changes have been made and requires further clarity, the AMR owner will request the lecturer to provide further insight and clarity into their changes, so the AMR owner understands fully what their planned changes are and can ensure the module documentation and future data inputting into SIMS reflects accurately.

Once the AMR owner is satisfied in being able to understand and determine what changes have been made to a specific module or programme based on the emailed documentation from the lecturer, the AMR owner will update their own personal Word Document, which is tracking all the changes being made in the AMR process for that academic year.

Figures 14, 15 and 16 outline the Collection and Documentation phase of the AMR process within the School of Mathematics, which has a duration of three to four weeks to conclude.
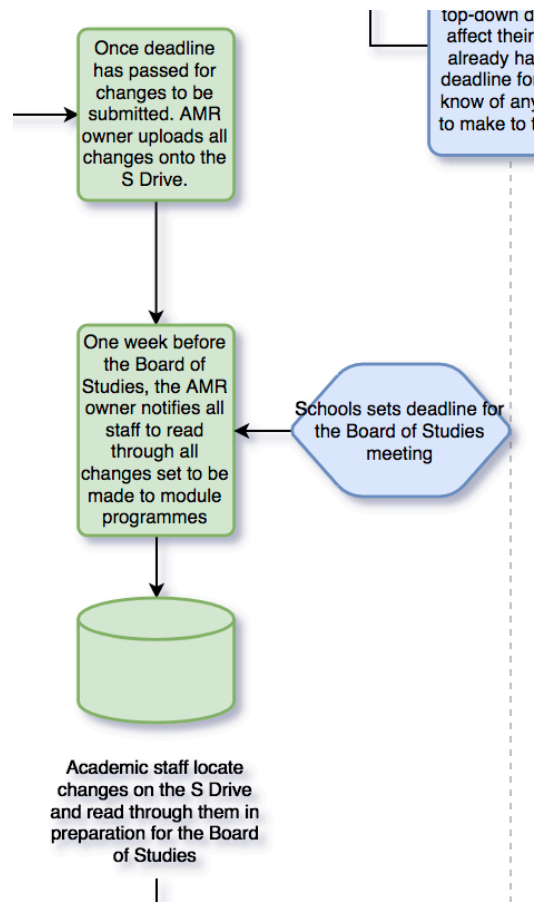
Figure 17 - Mathematics AMR (Part 5)

After the deadline has passed and all lecturers have documented their planned module changes and enhancements for the following academic year, the AMR owner will upload all those changes to a directory on the S Drive, which is a University network drive which all staff members in the School of Mathematics can access.

One week before the Board of Studies meeting, in which the date will be decided in advance, preferably in the planning and preparation stages early on in the process by the Director of Teaching, the AMR owner will notify all lecturers to review all the module documentation on the S Drive, in preparation for the Board of Studies meeting.
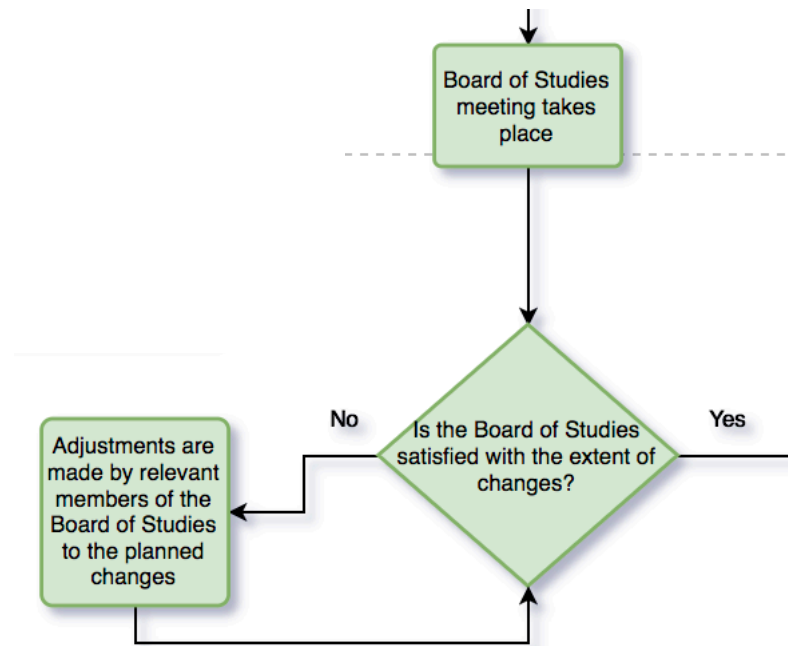
Figure 18 - Mathematics AMR (Part 6)

A week later, once the date of the Board of Studies meeting arrives, an afternoon will be spent by the Board of Studies executing its functions which are outlined in sections 2.5.2 and 2.5.3 of this project report. If it is an academic year in which top-down changes are enforced, the Board of Studies will also be an opportunity seized by the Director of Teaching and AMR owner to discuss in detail the top-down enforced changes to programmes and modules with all lecturers who may have not been privy to meetings back in the Autumn period.

If concerns are raised by fellow lecturers in regard to certain changes being proposed for a module or programme for the following academic year, it will be discussed in the Board of Studies meeting and changes made to the documentation at that precise time.

Figures 17 and 18 outline the Consultation and Review phase of the Annual Module Review process within the School of Mathematics, which has a duration of two to three weeks.
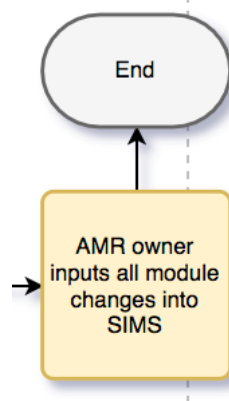
Figure 19 - Mathematics AMR (Part 7)

Finally, after the Board of Studies has concluded and all members are satisfied, the AMR owner will begin inputting the module changes into the Student Information Management System (SIMS).

Figure 19 outlines the Data Inputting phase of the Annual Module Review process within the School of Mathematics, which has a duration of three to four weeks.

This concludes the School of Mathematics Annual Module Review process.

4.5 School of Mathematics – AMR Process Speed of Execution

From discussions with Dr Alastair Clarke the time it takes to complete the AMR process is as follows (first number represents minimum duration, second number maximum duration):

- Planning and Preparation (blue): 1 to 5 weeks
- Collection and Documentation (red): 4 to 5 weeks
- Consultation and Review (green): 2 to 3 weeks
- Data Inputting (yellow): 3 to 4 weeks

Therefore, the minimum duration for executing the AMR process in terms of speed of execution is 10 weeks, approximately two and a half months. Whereas, the maximum duration for executing the AMR process in terms of speed of execution is 17 weeks, approximately four months.

Total:

Minimum Duration: 10 weeks (approx. 2.5 months)
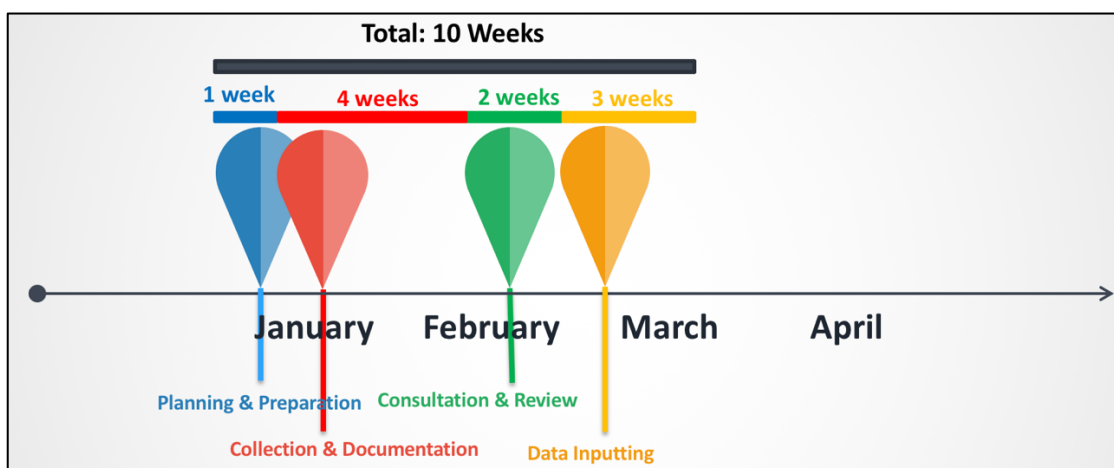
Figure 20 - Maths Best-Case Scenario AMR Duration

Maximum Duration: 17 weeks (approx. 4 months)
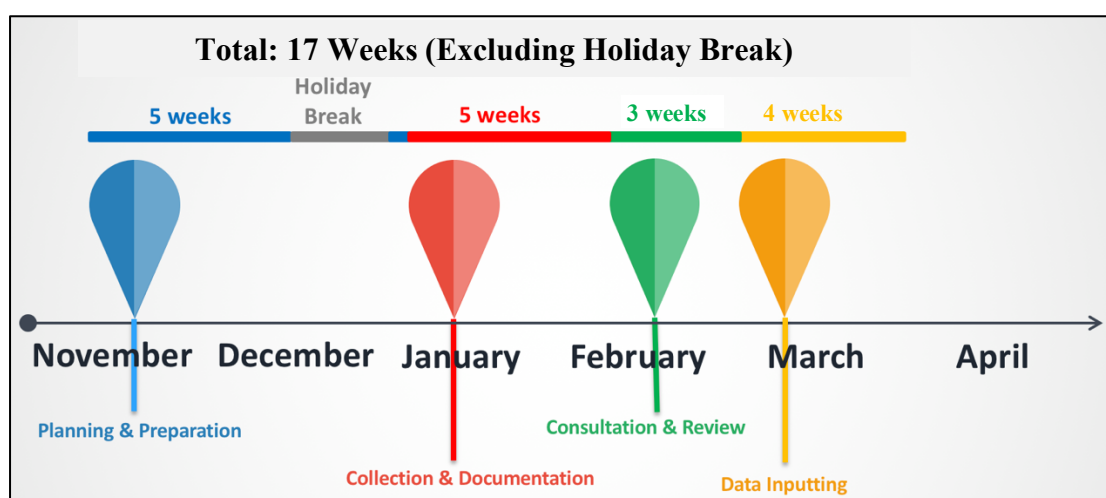
Figure 21 - Maths Worst-Case Scenario AMR Duration

Possible delays which can prevent the minimum duration being achieved, being evident when executing the AMR process within the School of Mathematics, includes:

- **Planning and Preparation Phase**:
    - Institute of Mathematics and its Applications year of programme reviews, will require additional planning and preparation time
    - Top-down enforced changes proposed by the Mathematics School Board and the Director of Teaching
- **Collection and Documentation Phase**:
    - Technical and system issues which prevent the collection and documentation of potential module changes – i.e. S Drive unavailable.
    - Industrial action - lecturers strike preventing them from conducting any day-to-day work which means they will not be collecting and documenting their potential module changes
- **Consultation and Review Phase**:
    - Difficulty in the logistics of finding a date or location for the Board of Studies
    - Significant and complex issues arise in the Board of Studies meeting which requires addressing and further discussion
- **Data Inputting Phase**:
    - Technical difficulties with the Student Information Management System (SIMS) prevent the uploading and inputting of new module changes
    - Dr Alastair Clarke receives an increased workload within the phase of Data Inputting, leading to significant delays as he is solely responsible for the execution of this phase.

It is worth noting that phases take place in a chronological fashion, and as a result a delay in an earlier phase will have a rolling impact on future stages within the process, in terms of total time required to execute the process increasing.

The list above is not exhaustive but provides an insight into potential challenges which could lead to the duration of execution of the AMR process, extending from minimum duration to the maximum duration, or somewhere between those two parameters.

4.6 School of Mathematics – ECA Business Rules

To correspond alongside the workflow model in the form of a flowchart and a detailed description, this sub-section of the project report describes a set of semi-formal business rules for School of Mathematics AMR process. These semi-formal business rules take inspiration from Event-Condition-Action rules in databases, as well as emphasise the need of human readability rather than machine readability.

As the author mentioned previously in this project report, there is no formal documentation on the AMR process within the School of Mathematics, and this provides an opportunity with the business rules to outline, the actions and tasks executed by the agents within the process, in greater detail.

Note to reader that the format and style of the business rules follows the same outlined in the Computer Science and Informatics business rules. Therefore, if the reader requires a reminder please check the introduction to Section 4.3.

The Business Rules for the School of Mathematics unintegrated annual module review process can be found in **Appendix J**.

There is a total of 37 business rules for the Mathematics Annual Module Review process.

List of agents within the Mathematics AMR process, which are relevant for the list of business rules below, includes:
- University Registry
- AMR Owner
- Lecturer(s)
- School Board
- Board of Studies
- Director of Teaching

Along with the agents, there are a set of systems which are used within the School of Mathematics Annual Module Review process, which are referenced throughout these business rules, these systems are the following:
- Shared S Drive
- Student Information Management System (SIMS)

Similarly, to the School of Computer Science and Informatics business rules (Section 4.3). The author has included an alternative view in the form of a UML Sequence Diagram, which can be found in Appendix D.

Note to the reader, when examining the business rules or Appendix J and Appendix D, a range of colours are used as a form of highlighting to distinguish certain rules. The colours have the following meaning:
- **Planning and Preparation** – *Blue*
- **Collection and Documentation** – *Red*
- **Consultation and Review** – *Green*
- **Data Inputting** – *Yellow*

The colour of the highlighted business rule refers to the phase in which that business rule belongs to.

5. Analysis

In this section of the project report, the author will explore the differences and variances between the School of Computer Science & Informatics annual module review process, and the School of Mathematics annual module review process.

This involves analysing the different methods and components that each School uses in order to satisfy their module review and enhancement obligations, explaining the advantages of each method or component and the rationale behind each School using that specific method or component.

Followed by the discussion of key considerations and big questions which must be contemplated when thinking about the practicalities of implementing an integrated annual module review process.

After that, the author explains in detail the two workflow models which have been developed to illustrate two variations of an integrated annual module review process with a significant difference in priorities, going into detail in comparing them both as entire processes, as well as referencing the set of ECA inspired business rules which the author has also developed to compliment the workflow models.

5.1 Variances and Differences between the Computer Science and Mathematics Annual Module Review Processes

From comparing and analysing the two-unintegrated annual module review processes between the School of Mathematics and the School of Computer Science and Informatics, the author has identified 9 main differences and degrees of variance between the ways in which the Schools execute and implement their annual module review and enhancement obligations. The author discusses the difference in approach, followed by the reasons as to why the approaches have been chosen in each School, and the advantages of each approach.

5.1.1 Alignment of Annual Module Review Process

The Computer Science and Informatics' annual module review process commences in January of the academic year consistently, no matter if the minimum or maximum duration of the process is achieved.

Whereas, the School of Mathematics' annual module review process commences in the autumn period between October and November of the academic year.

Rationalisation of Difference:

The School of Mathematics begin their process in the autumn period between October and November of the academic year because the School has formalised aligning the annual module review process with the strategic decision making and planning by the Head of School, School Board and Director of Teaching.

Whereas, the School of Computer Science and Informatics view the annual module review process as a tactical process, and is driven by AMR Owner and Lecturers, and as a result it is considered to be more appropriate for the annual module review process to begin in January.

Advantages of Aligning Annual Module Review Process with Strategic Decision Making:

The author considers the advantages of the Mathematics approach of aligning the annual module review process with the strategic decision making of the Head of School, School Board and Director of Teaching (as a result the process starting in autumn), to be:

1. Ensure modules and programmes are contributing and representing quickly the direction the School's management want the School to follow
2. Feedback can be fed from the annual module review process of the previous academic year to the strategic decision making of the upcoming academic year
3. Provides an opportunity for the School's management team to review the annual module review process with the AMR Owner in the autumn period of the academic year to discuss possible improvements before the process has begun

Advantages of NOT Aligning Annual Module Review Process with Strategic Decision Making:

The author considers the advantages of the Computer Science approach of NOT formally aligning the annual module review process with strategic decision making with School's management teams, to be:

1. Decreased workload for the AMR Owner, as the management, preparation and planning of the annual module review process begins in the after Christmas, rather than in the autumn period
2. Decreased bureaucracy as the additional involvement of the School Board, Head of School and Director of Teaching in the preparation and planning of the annual module review process could be examined as adding excessive complexity and complication to the administrative process
3. Intended changes to modules and programmes that Lecturers planned to make, will not be affected and possibly deemed irrelevant by potential top-down drivers derived by the School Board and Head of School if the process was aligned with the strategic decision making

5.1.2   Director of Teaching Involvement

Within the School of Computer Science and Informatics' annual module review process, the Director of Teaching has a significant level of involvement throughout the entire process, with a large amount of input during the Collection and Documentation Phase and Consultation and Review.

Whereas, within the School of Mathematics' annual module review process, the Director of Teaching's involvement is focused in the Planning and Preparation Phase and as a member of the Board of Studies.

Rationalisation for Difference:

As a result, of the School of Computer Science and Informatics, not formalising the alignment of the annual module review process with strategic decision making with the School's management at the start of the academic year, the Director of Teaching provides regular input and support to the AMR Owner, to ensure that the AMR Owner is able to execute the process effectively and smoothly throughout all phases. Therefore, having a significant involvement throughout.

Whereas, because the School of Mathematics do formalise the alignment of their annual module review process with the strategic decision making with the School's management (included Director of Teaching), at the start of the academic year, the Director of Teaching provides less input throughout the process. However, the Director of Teaching will be there to support the AMR Owner when they require it.

Advantages of Greater Director of Teaching Involvement:

The author considers the advantages of the Computer Science approach of greater Director of Teaching involvement within the annual module review process, to be:

1. Reduce the workload of the AMR Owner – the Director of Teaching can aid the AMR Owner spread the workload and requirements of managing the process, especially if a form of crisis or surge of work occurs
2. Able to provide leadership and guidance to the AMR Owner where rare situations or occasions may occur within the process, such as the steps which need to be taken when a potential proposed Major change is identified
3. Director of Teaching can directly feedback the progress of the annual module review process to the School Board and Head of School, providing transparency and clarity to leadership continuously

Advantages of Lesser Director of Teaching Involvement:

The author considers the advantages of the Mathematics approach of lesser Director of Teaching involvement within the annual module review process, to be:

1. Reduces bureaucracy and could reduce the duration of the process, because steps within the process will not require additional sign-off from the Director of Teaching along with the AMR Owner
2. Less chance of confusion, as only the AMR Owner will provide guidance and leadership to the Lecturers within the process. Whereas, if the Director of Teaching also advised the Lecturers within the process, the DoT and AMR Owner may contradict each other when consulting with Lecturers which could cause confusion and potential conflict

3. Speedier decision making as within this form of the annual module review process, the AMR Owner is solely responsible and accountable for driving and making decisions

5.1.3 System to store and collect module documentation

Within the School of Computer Science and Informatics, the annual module review process uses the Microsoft OneDrive technology to host, store, collect and update relevant module documentation which is accessed throughout the process.

Conversely, the School of Mathematics use the University network shared S Drive technology to host, store, collect and update relevant documentation which is accessed throughout the process.

Rationalisation for Difference:
The School of Mathematics decided to use the University network shared S Drive as it was convenient (already on the University network) and had been previously used by colleagues within the School over several years for joint projects and other School activities and operations.

The School of Computer Science and Informatics decided to adopt the Microsoft OneDrive technology to host, store, collect and update relevant module documentation, because it provided modern cloud storage features and functionality.

Advantages of using the University network shared S Drive:
The author considers the advantages of the Mathematics approach of adopting and using the University network shared S Drive for hosting, storing, collecting and updating relevant module documentation, to be:
1. Colleagues within the School and University are proficient and competent using the shared network drive as it has been widely used within the School and University in the past, making it easy to use.
2. Able to store a range of files and document types, as well access them no matter the location of the staff member (but will require logging in via the Cardiff University network using a VPN)
3. Convenient and easy to access on a Cardiff University computer under "My Computer"
4. Security – data and information is stored locally rather than externally on a cloud

Advantages of using the Microsoft OneDrive:
The author considers the advantages of the Computer Science approach of adopting and using the Microsoft OneDrive technology for hosting, storing, collecting and updating relevant module documentation, to be:
1. Speedier editing and uploading of module documentation because Word documents can be edited and saved directly on the cloud through a web browser, meaning Lecturers do not need to download documentation and re-upload it after completion.

2. Provides greater transparency and integrity of module documentation, as Microsoft OneDrive provides the ability for Administrators to set 'tracking changes' in documents on the cloud, meaning any changes made to the documents can be tracked and clearly see what has been changed compare to a previous version of that module document

3. Able to store a range of files and document types, which can be accessed in remotely in a range of mobile locations

5.1.4   Level of Detail and Data Collected from Lecturers

Within the School of Computer Science and Informatics, the annual module review process collects supplement data and information from Lecturers along with the Lecturer's proposed module and programme changes. The type of supplement data and information the School of Computer Science and Informatics' collects will vary from year-to-year depending on the requirements of the School and decisions by the School's management team, including the AMR Owner and Director of Teaching. The supplement data is collected via additional documentation attached to the module documentation for the Lecturer's to fill in.

On the other hand, the School of Mathematics' annual module review process will only request the necessary proposed module changes by the Lecturers.

Rationalisation for Difference:
The School of Computer Science and Informatics see an opportunity within the implementation of module review and enhancement to collect supplement module data and information from Lecturers, which can feedback into decision making by the School's management team at a later date. It also means that the School can reduce the number of times in which they request data and information from Lecturers, which when repeated may cause frustration and delays due to other commitments.

The School of Mathematics have never considered collecting supplement data and information within their annual module review process, but instead do this at a later date as part of another set of activities or process.

Advantages of collecting supplement data and information:
The author considers the advantages of the Computer Science approach, collecting supplement data and information as part of the annual module review process, to be:
1. Enhance decision making and planning, because the supplement data and information collected along with the proposed module changes allows for comprehensive decisions to be made around those proposed module changes, permitting smoother implementation
2. Reduces number of times School has to request data and information from Lecturer, because at some point the School will require the additional data and information at a future date, by formalising that extra data extraction as part of the module review

process, it reduces the number of times the School has to ask the Lecturer to perform a certain activity.

<u>Advantages of NOT collecting supplement data and information:</u>
The author considers the advantages of the Mathematics approach, of NOT collecting supplement data and information as part of the annual module review process, to be:
1. Reduces the duration of the Collection and Documentation phase of the annual module review process, because the amount of information and data attempting to be extracted from the Lecturer within the process is significantly reduced
2. Reduces the chance of process fatigue for the Lecturer when completing the tasks of providing the data and information required as part of the process. The more information and data required from the Lecturer, the more time and thinking required which could lead to work fatigue.
3. Reduces complexity within the Collection and Documentation phase of the process, as the less information and data required makes the task of providing the necessary data and information simpler.

5.1.5 Level of responsibility of Lecturer to document changes

Within the School of Computer Science and Informatics, the AMR Owner sets up all the relevant module documentation on the Microsoft shared OneDrive, as well as makes clear the expectations of the information and data required for module review and a deadline date. Accordingly, the Lecturer is expected to complete all the inputting of module changes and information within the relevant module documentation on the shared OneDrive.

Conversely, in the School of Mathematics, the AMR Owner will first ask the Lecturer of the proposed module change they want to make. Once they respond, the AMR Owner then assesses how simple and easy those changes are to document within the relevant module documentation. If the changes are deemed simple and easy, the AMR Owner will document the changes on behalf of the Lecturer, and if they are not deemed simple and easy, the AMR Owner will send the Lecturer the relevant module documentation and ask them to proceed with documenting them. Therefore, if possible the AMR Owner will document the proposed module changes on behalf of the Lecturer.

<u>Rationalisation for Difference:</u>
The difference of approach between the two Schools is in consequence to the attitude and expectation of the role of the AMR Owner within each school.

In the School of Computer Science and Informatics, the AMR Owner role is considered a strategic and tactical position within the school, which is responsible for facilitating, directing and guiding the annual module review process, which amounts to setting up the environment for the Lecturers to complete and drive forward their review for their individual modules.

On the other hand, in the School of Mathematics, the AMR Owner role is considered an administrative and operational position within the school, which is responsible for driving and pushing through the module enhancements and changes. Therefore, where possible the AMR Owner attempts to reduce the workload of the Lecturer's within the process in order to remove reliance, delegation and any additional complexity within the process.

<u>Advantages of the Lecturer having greater responsibility of documenting changes:</u>
The author considers the advantages of the Computer Science approach, of Lecturers having greater responsibility of documenting changes, to be:
1. Increase accountability, because the Lecturers are given full responsibility of providing the relevant information and data required, as well as documenting their module changes within the relevant module documentation, there is a greater level of accountability to the content of their module documentation.
2. Reduce apathy within the process, because the Lecturers are more involved in the Collection and Documentation phase, being fully responsible to document their module changes, it will feel less of a box-ticking exercise to satisfy the AMR Owner and more of an exercise to ensure their modules are suitable and of a high quality. Therefore, reducing the chance of apathy within the process
3. Reduces chance of human error and complexity, because if the AMR Owner misunderstands their proposed changes and enhancements, it could lead to the AMR Owner documenting them incorrectly on behalf of the Lecturer.

<u>Advantages of the Lecturer having lesser responsibility of documenting changes:</u>
The author considers the advantages of the Mathematics approach, of Lecturers having lesser responsibility of documenting changes, to be:
1. Reduce workload of Lecturer, because the Lecturer is not always required to document the module changes if the AMR Owner is able to do it for them

5.1.6 Formal Check for Major Changes before Board of Studies

Within the School of Computer Science and Informatics' annual module review process, there is a formal set of activities within the Collection and Documentation phase which allows for the AMR Owner and Director of Teaching to check if any documented proposed module changes and enhancements are classified as Major. Furthermore, the Computer Science annual module review process formally involves the College Quality Officer, and potential interactions between the AMR Owner and Director of Teaching with the College Quality Officer.

However, within the School of Mathematics' annual module review process, there is no formal set of activities within the Collection and Documentation phase, and this form of check does not take place until the Board of Studies. Additionally, there is no involvement of the College Quality Officer within the process.

From the author's discussions with the Computer Science AMR Owner, they made explicitly clear that there is another process in the event that the AMR Owner or Director of Teaching identify a valid proposed module change which is classified as Major, and as a result must be considered as part of the overall annual module review process.

Conversely, from the author's discussions with the Mathematics AMR Owner, they made explicitly clear that they had not come across any type of Major changes within their process as of yet, and as a result were not seriously concerned in adding in additional checks for a potential issue they have not come across before.

Advantages of formal checks for Major changes before Board of Studies:

The author considers the advantages of the Computer Science approach, of formal checks and evaluation for Major changes before Board of Studies, to be:

1. Begin College's Major change policy as quick as possible because this is directed at a college level by the College Quality Officer, a check and evaluation within the Collection and Documentation phase allows for the Major change policy to be enacted early on, rather than waiting until the Board of Studies meeting.
2. Increases levels of reassurance and governance, because the additional check and evaluation is undertaken within the process, along with the compulsory check and evaluation as part of the Board of Studies, it allows the School to feel reassured that they have been diligent, conscientious and upheld their duty of governance when making module changes and enhancements.

Advantages of NO formal checks for Major changes before Board of Studies:

The author considers the advantages of the Mathematics approach, of NO formal checks and evaluation for Major changes before Board of Studies, to be:

1. Reduces bureaucracy and complexity, because without the additional check and evaluation there are less activities within the Collection and Documentation phase, as a result increasing the simplicity of the process.
2. Does not undermine a responsibility of the Board of Studies – the Board of Studies is the formal function within the process which is responsible for discussing and evaluating all proposed module changes and enhancements, which includes checking for potential Major changes. The introduction of an earlier check within the process by the AMR Owner and Director of Teaching could be viewed as undermining a core responsibility of the Board of Studies within the process

5.1.7 Student consultation as part of the process

Within the School of Computer Science and Informatics' annual module review process, the AMR Owner uses Learning Central to upload all proposed module changes and reaches out to the students asking for feedback by a certain deadline date.

Instead, in the School of Mathematics annual module review process, there are no formal steps or set of activities to involve student consultation as part of the annual module review process.

<u>Rationalisation for Difference:</u>
From the author's discussions with the current AMR Owners in both schools, the author understands that both AMR Owners would like for student consultation to be part of the annual module review process in the form of the Student Staff Panel (SSP) reviewing proposed module changes.

However, both Schools are unable to implement SSP as part of their annual module review process, because the current SSP meetings commence either too early or too late in the academic year, and as a result are unsuitable and inconvenient to play an active role within the process.

The School of Computer Science and Informatics has found an alternative approach, by uploading proposed module changes on Learning Central for students, requesting them to email feedback or concerns they may have after examining them. Whereas, the School of Mathematics have not considered an alternative approach as a result of SSP being unavailable.

Therefore, the author will discuss the advantages of SSP involvement within the annual module review process, as well as the advantages of the Learning Central approach to student consultation, as both Schools would like student consultation to be part of their annual module review process in some form, even if it is not currently implemented.

Please note that it could be possible for the SSP to potentially be involved alongside uploading proposed module changes onto Learning Central.

<u>Advantages of uploading module changes to Learning Central:</u>
The author considers the following to be the main advantages of the Learning Central approach for student consultation within the annual module review process (currently used by the School of Computer Science and Informatics)
1. Consultation and review can be conducted by students anywhere – the proposed module changes will be uploaded onto Learning Central which can be accessed in any location with an internet connection
2. Opens up feedback to a wider student cohort – the Learning Central approach invites a wide range of students from across the student cohorts to take part in providing feedback on the proposed module changes, who would otherwise be unable to if they were not part of the SSP (an elected student representative)
3. Students feel more safe in providing feedback – unlike the SSP, whereby the student could be in the same SSP meeting as a Lecturer who has made a proposed module change which they may have concerns with, they may not feel safe in raising a concern in front of them, the Learning Central approach distances the students by having private

email communications with the AMR Owner over a proposed module change, which could make students feel more safe to provide feedback

4. Increases governance –feedback by students in regard to proposed module changes may highlight new concerns and insights which Lecturers, the AMR Owner or Director of Teaching may not have noticed, which could help ensure that the quality of module changes and enhancements is high and overall governance by the School is effective.

<u>Advantages of Student-Staff Panel involvement as part of the process:</u>

The author considers the following to be the main advantages of integrating the SSP as part of the annual module review process (currently not done by either school, but is desired by both):

1. Formalises student consultation as part of the process – the SSP is already a formal function of operations within University schools, integrating the SSP as part of the annual module review process would exploit an already familiar function within the department to aid in the module review process for student consultation

2. Natural fit and easy integration – the SSP is a medium for students to discuss concerns with heads of year and fellow lecturers, which makes its purpose and existence perfectly suitable and logical to be part of the annual module review process to help review proposed module changes formally

3. Increases governance – formal feedback by students in regard to proposed module changes may highlight new concerns and insights which Lecturers, the AMR Owner or Director of Teaching may not have noticed, which could help ensure that the quality of module changes and enhancements is high and overall governance by the School is effective.

5.1.8 Responsibility of inputting Board of Studies approved module changes into SIMS

As part of the annual module review process in the School of Computer Science and Informatics, once the proposed module changes and enhancements are signed off by the Board of Studies, the AMR Owner compiles a list of all changes by module code and sends those approved module changes to the School's Office and Administrative Team to input and upload into SIMS.

Conversely, in the School of Mathematics, once the proposed module changes and enhancements have been approved by the Board of Studies, the approved module changes are inputted and uploaded into SIMS.

<u>Rationalisation for Difference:</u>

The reasoning for the difference in approach between the two Schools comes down to convention and the expectations of the AMR Owner.

The School of Computer Science and Informatics believe that the AMR Owner is there to guide, strategize and direct the annual module review process, and the considerably large office and administration team is expected to handle large School admin tasks, in which the upload

of Board of Studies proposed module changes is considered as one of those tasks. It has now become regular practice and convention for the Office and Administration team to meet this responsibility.

However, within the School of Mathematics, the AMR Owner is expected to act in an operational capacity, and aid in pushing the process along. As a result, the AMR Owner is expected to support the input and upload of the Board of Studies approved changes into SIMS. The School of Mathematics' Office and Administration team has never in the past uploaded the approved Board of Studies module changes, as a result the responsibility has fell upon the AMR Owner and become convention.

<u>Advantages of Office and Administration Team inputting and uploading changes into SIMS:</u>
The author considers the Computer Science approach, of the Office and Administration Team inputting and uploading the Board of Studies approved module changes into SIMS, to be:
1. Reduces the workload of the AMR Owner – the Office and Administration team removes a considerable and lengthy task from the AMR Owner, especially if the AMR Owner was to execute that task by himself
2. Increases efficiency of resources – the Office and Administration team's expertise lies in data input and the completion of operational tasks which allows the School to operate on a day-to-day basis effectively, the task of data inputting and uploading proposed module changes into SIMS aligns with their responsibilities and expertise in comparison to the AMR Owner
3. Reduces duration of data inputting – there is a number of people which are part of the Office and Administration Team who will input and uploading the approved module changes together which will drastically reduce the time it takes, in comparison to just the AMR Owner completing the task

<u>Advantages of AMR Owner inputting and uploading changes into SIMS:</u>
The author considers the Mathematics approach, of the AMR Owner inputting and uploading the approved module changes into SIMS, to be:
1. Greater control of the process – by the AMR Owner being responsible for the inputting and uploading of the approved module changes, the AMR Owner has greater control of the process, which can help in ensuring the input and upload is done by the deadline stated by the University registry
2. Reduces bureaucracy and complexity within the process – by the AMR Owner being responsible it removes an agent from the process and a set of steps which would be aligned with the Office and Administration team, as a result this simplifies the process and reduces the bureaucracy and complexity

5.1.9   Duration of Processes

School of Computer Science and Informatics (Section 4.2):
- Minimum duration of the annual module review process – 2.25 months (9 weeks)
- Maximum duration of the annual module review process – 3.75 months (15 weeks)

School of Mathematics (Section 4.5):
- Minimum duration of the annual module review process – 2.5 months (10 weeks)
- Maximum duration of the annual module review process – 4.25 months (17 weeks)

Rationalisation for Difference:

The difference in the duration of the processes is in consequence to the degrees of variance and difference in approaches which have been discussed in Section 5.1 of this project report.

5.2   Challenges and practicalities of implementing an integrated Annual Module Review Process

In section 5.1 of this project report, the author discussed 9 key differences and degrees of variance in approach of how each School currently implement their annual module review process.

In this sub-section of the report (section 5.2) the author wants to highlight and expound the key challenges and practicalities which need to be addressed when attempting to implement and explore an integrated annual module review process between both Schools. The author has identified five key challenges which need to be considered and deliberated on when practically trying to implement an integrated annual module review process.

5.2.1   Defining the expectations of each agent within the process

As mentioned previously in this project report, from the author's discussions with both current AMR Owners in the School of Mathematics and the School of Computer Science and Informatics, neither have any formal documentation on the way in which the current annual module review process is executed.

This means that the expectations and responsibilities of agents within each individual process have been established based on tacit knowledge, conventions and practices formed over a significant period of time. In consequence, this creates a level of opaqueness and lack of clarity within the process, each agent is operating based on what they believe they need to do and are requested to do, rather than having a definitive set of documented responsibilities as part of module documentation. A definitive set of documented responsibilities would leave no doubt or misunderstanding as to what the expectations and responsibilities are of each agent within the process.

Therefore, the first challenging practicality of implementing an integrated module review process, is discussing with all agents involved, between both schools, what their expectations and responsibilities are and making them definitively clear as part of module documentation to ensure clarity and transparency within the new integrated process, which as a result could aid in the adoption of the new integrated process between the agents.

The author understands this challenge, therefore, as part of the proposed integrated annual module review process models in section 5.3, the author clearly expounds and explains what is expected from each agent through each phase of the process as deemed relevant.

5.2.2   Managing the increased complexity of an integrated process

Before the implementation of an integrated annual module review process, both Schools would have been accustomed to the annual module review process being internal and only serving their school.

However, an integrated annual module process will be part of both schools, which ultimately means an increasing number of agents involved such as: an increased number of lecturers and an increased number of students. For that reason, there is a naturally added complexity within the process which will affect both schools.

Accordingly, upon the Schools considering the implementation of an integrated annual module review process they would need to discuss as a senior management team, how to manage that added complexity, and as a result ensure that the integrated module review process executes as smoothly as possible. The author will attempt to provide guidance and support to the senior management team, using the proposed integrated models built, which are expounded later in this report, in section 5.3.

5.2.3   Management and Leadership of the integrated annual module review process

Sections 5.2.1 and 5.2.2 expound and explain the high-level challenges that both schools would encounter when trying to implement an integrated annual module review process. Sections 5.2.3, 5.2.4 and 5.2.5 will outline more specific and explicit challenges in regard to the practicalities of implementing an integrated annual module review process.

A specific challenge for each School's management team is understanding and agreeing on the leadership and management of the integrated annual module review process. Currently, within each school the processes are managed by a single AMR Owner and a single Director of Teaching. However, an integrated annual module review process would change the dynamic as there would be two AMR Owners and two Directors of Teaching. Below the author has proposed two solutions to overcome this challenge:

In section 1.3 of this project report, the author outlined the strategic drivers between the School of Computer Science and Informatics and the School of Mathematics for moving to a new shared state-of-the-art facility and site. Two of the strategic drivers specified were *greater collaboration between disciplines* and *greater effective and efficient business operations*.

Based on this, the author proposes that one solution to help realise and enforce these strategic drivers but also address the leadership challenge of the integrated annual module review process, is to create a new role between the School of Mathematics and the School of Computer Science.

This role could be part of both leadership teams within the School of Computer Science and Informatics and the School of Mathematics, whose responsibility is to help realise the greater collaboration opportunities between both schools, and where possible lead in making school business operations more effective and efficient. As part of this remit, this new role could involve leading and directing the integrated annual module review process every year between each school.

Under the colleague within this new role, there could be one School member from the School of Computer Science and one member from the School of Mathematics to help support this new role lead and direct the integrated annual module review process.

Director of Teaching and AMR Owner Collaboration:
To tackle the leadership challenge of the integrated annual module review process, the Schools could have both Directors of Teaching for each School work together formally for the integrated annual module review process, to strategize and guide it, while an AMR Owner for each School helps in the integrated processes implementation.

Otherwise another alternative approach to this one, could be to instead have one AMR Owner agreed by both management teams of each School, who must work with and manage the requirements of the Director of Teaching within the School of Computer Science and Informatics and the Director of Teaching within the School of Mathematics. This single AMR Owner would be responsible for implementing and directing the integrated annual module review process between both schools.

This type of approach would be the most aligned to what both Schools are currently accustomed to in their unintegrated module review processes.

5.2.4 The composition of the Board of Studies

The second explicit and specific challenge which faces the School of Mathematics and the School of Computer Science and Informatics when attempting to implement an integrated annual module review process, is the composition and configuration of the Board of Studies.

As stated by executive University policy, there must be at least one academic staff representative of each Module under the aegis of the Board of Studies.

This requirement leads to the question of how to implement the Board of Studies as part of the process. Below, the author has proposed two recommendations and solutions to this challenge:

A joint Board of Studies:

As mentioned previously in this project report, one of the strategic drivers of the Schools moving to a shared state-of-the-art facility and site, is for greater collaboration. Therefore, on this premise there is a justifiable argument for a single and larger Board of Studies to take place, instead of two individual ones.

However, this approach does encounter its own difficulties. Firstly, executive University policy states that all Schools must have their own Board of Studies, which means that if a joint Board of Studies is desired, both Schools would have to negotiate and discuss with central University to achieve an agreement on this approach to be possible.

Furthermore, the Board of Studies would grow significantly larger in terms of attendance size, there would be an increased number of lecturers, and the length of the Board of Studies meeting would significantly increase as all changes must be discussed, which could lead to an increase in fatigue for members taking part in the Board of Studies, as well as a belief of increased bureaucracy.

Two separate Board of Studies part of the same process:

The second approach to address this explicit and specific challenge is to have two separate Board of Studies as part of the same integrated annual module review process. Thus, the composition and configuration of both Board of Studies within each individual School would remain the same as they do in the current and unintegrated module review processes but would be part of the larger integrated annual module review process.

The Computer Science Board of Studies would be responsible for approving module changes for Computer Science and Informatics modules and programmes. Whereas, the Mathematics Board of Studies would be responsible for approving module changes for the Mathematics modules and programmes.

This approach would address the issues outlined in the 'joint Board of Studies' approach.

However, this approach to this specific challenge would contain its own issues. For example, greater collaboration between both Schools could lead to joint module programmes, which can be taken by both Mathematics and Computer Science students at which point how do you approve the module changes? Do the module changes for that module need to be signed off by both Board of Studies and not only one of them? Does there need to be a representative for that module on each Board of Studies?

5.2.5 The introduction of Student Staff Panels and their implementation

The final explicit and specific challenge which both Schools will encounter from the practicalities of implementing an integrated annual module review process, is the potential involvement and introduction of SSP within the integrated annual module review process, and how they could operate in practice.

As mentioned in section 5.1.7, both AMR Owners within each school desire the involvement of the SSP within their current individual annual module review processes. However, due to the current SSP meetings within each school happening either too early or too late in the academic year, they are unfeasible and impractical to be part of the current individual module review processes within each school.

Nevertheless, as there is a desire and aspiration for the SSP to be part of the integrated annual module review process by both current AMR Owners. The School's management teams need to understand and recognise this desire, and whether or not it is possible for the dates of some SSP meetings to be moved to convenient dates in the academic year which make them suitable and align with the integrated annual module review process.

If the SSP meetings can be aligned to be convenient and beneficial to an integrated annual module review process, the next explicit challenge is the composition and formation of the SSP. Below the author expounds two possible solutions to the composition and formation of the SSP within an integrated annual module review process.

A joint SSP:
For the same reason, that a joint Board of Studies, is a justifiable recommendation, the same applies for a joint SSP between both Schools. As mentioned, one of the strategic drivers for sharing location is for greater collaboration between both schools, and as a result a joint SSP could help to realise this strategic objective.

A joint SSP could be comprised of both Mathematics and Computer Science student representatives, as well as the Head Tutors from both individual schools and both Directors of Teaching. The SSP could be chaired on an ongoing rotational basis between a Computer Science student and then a Mathematics student for the sake of balance.

This type of configuration of the SSP would promote greater collaboration, integration and cooperation between both Schools.

However, as there will be an increased number of participants in the SSP, the meeting will take a considerable amount of time longer than one solely focused to an individual school. Furthermore, the SSP is discussion focused to address students concerns, and with an additional

number of participants this will promote a greater number of opinions, which could prevent resolutions being found for student concerns or feedback over proposed module changes.

Two SSPs part of the same process:
An alternative approach to introducing a joint SSP as part of an integrated annual module review process is two separate SSPs which run concurrently by each School as part of the process.

One SSP will be run for the School of Computer Science and Informatics, which will allow for relevant personnel from the Computer Science faculty and elected Computer Science student representatives, to discuss and debate over specific school matters, including the proposed module changes for that academic year.

The other SSP will be run for the School of Mathematics, which will allow for relevant personnel from the Mathematics faculty and elected Mathematics student representatives, to discuss and debate over specific school matters, including the proposed module changes for that academic year.

Preferably, the separate SSP meetings would be ran as concurrently as possible within the relevant phase of the integrated annual module review process.

This type of configuration of SSP would reduce bureaucracy and reduce the duration of the meetings as there will be lower number of participants in the individual SSP meeting, in comparison to if there was larger joint SSP meeting between both schools. The reduced number of participants means a reduced number of opinions which could make it easier for resolutions to be found for student concerns or feedback over proposed module changes.

However, this approach could be argued to not promote greater collaboration, integration and cooperation between both Schools, which was one of the strategic drivers of both schools sharing a state-of-the-art facility.

5.3 Proposed Integrated Annual Module Review Process Models

In section 5.1, the author has outlined the varying approaches that the School of Computer Science and Informatics and the School of Mathematics use to implement their module review and enhancements obligations which are outlined by central University. Followed by section 5.2, where the author highlighted five key challenges which both Schools will encounter and need to consider when attempting to implement a proposed integrated annual module review process.

Building upon the challenges highlighted in section 5.2 and the varying approaches between the schools in section 5.1. This part of the project report (Section 5.3) will develop and expound potential integrated annual module review process models based on a set of criterions and orientations. Each integrated annual module review process model contains a workflow model (flowchart), along with a set of business rules.

5.3.1 Governance and Diligence Oriented Integrated Annual Module Review Process

The first proposed integrated annual module review process is one which is oriented for governance and diligence for the School of Computer Science and Informatics and the School of Mathematics.

This model focuses on as much governance and diligence within the process as possible, in order to ensure that the enhancements and changes proposed for modules by Lecturers are of the highest quality and have the greatest positive impact as possible. There is an increased number of checks and balances to assure quality, as well as not solely relying on the Board of Studies as the only mechanism within the process to act as a judge, to look over the proposed changes as satisfying University policy.

Below the author outlines and expounds the workflow of a potential Governance and Diligence Oriented Integrated Annual Module Review Process.

5.3.1.1 Agents involved within the process

Collaboration Leader

The collaboration leader is a new role within both Schools, which sits on both management teams within each individual School. The dominant responsibility of this individual is to bridge the gap between each School when they move into the new state-of-the-art facility, and explore opportunities between both Schools, where greater collaboration, cooperation and partial integration would lead to significant benefits and innovations which would not otherwise occur.

As part of the annual module review process, the collaboration leader is responsible for directing and guiding the entire process from a strategic perspective.

The author decided to introduce a collaboration leader role as part of this integrated annual module review process model because:

- This role would aid both Schools in satisfying their strategic objectives which were used to justify a move to share a new building (see section 1.3)
- It would provide a level of structure and help to remove any politicking between both Directors of Teaching and AMR Owners from each School who would collaborate and cooperate within the AMR process, and may result to battling for influence and power.

University Registry

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the University Registry is responsible for setting the deadline for which the School of Mathematics and the School of Computer Science and Informatics must submit all their approved module changes by via SIMS.

Mathematics' Director of Teaching

The Mathematics' Director of Teaching is responsible for driving and improving the quality and delivery of teaching within the School of Mathematics. The Mathematics' Director of Teaching is a member of the School of Mathematics' management team.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the Mathematics' Director of Teaching is responsible for supporting the Collaboration Leader in directing and guiding the process from a strategic perspective, and where appropriate supporting the Mathematics' AMR Owner if they seek advice.

Computer Science's Director of Teaching

The Computer Science's Director of Teaching is responsible for driving and improving the quality and delivery of teaching within the School of Computer Science and Informatics. The Computer Science's Director of Teaching is a member of the School of Computer Science and Informatics' management team.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the Computer Science's Director of Teaching is responsible for supporting the Collaboration Leader in directing and guiding the process from a strategic perspective, and where appropriate supporting the Computer Science's AMR Owner if they seek advice.

Mathematics' Annual Module Review Owner

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the Mathematics' Annual Module Review Owner is responsible for facilitating, smoothing and enabling the process within the School of Mathematics.

Computer Science's Annual Module Review Owner

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the Computer Science's Annual Module Review Owner is responsible for facilitating, smoothing and enabling the process within the School of Computer Science and Informatics.

Lecturer

A Lecturer can be a member of either the School of Mathematics or the School of Computer Science and Informatics. A Lecturer is responsible for delivering the teaching of relevant subject fields relevant to each school to their respective students.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the Lecturer is responsible for updating their relevant module documentation with their proposed module changes and enhancements, providing the requested data, and supporting the respective AMR Owner whenever required for the process to be executed correctly and efficiently.

College Quality Officer

The College Quality Officer is a member of the College of Physical Sciences and Engineering. The College Quality Officer is responsible for ensuring the Schools within the College of Physical Sciences and Engineering meet their relevant obligations to ensure the maximum and highest level of quality within their processes is assured.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the College Quality Officer is responsible for executing and implementing the Major Change policy at college level, if the AMR Owner identifies a proposed module change by a Lecturer, which is not minor, but instead major.

Mathematics' Student Staff Panel

The Mathematics' Student Staff Panel is a committee within the School of Mathematics, which is made up of the Mathematics' Director of Teaching, Mathematics' AMR Owner, relevant Lecturers and elected Student representatives. The Mathematics' Student Staff Panel is a medium for Students and Lecturers to discuss issues, and for the School of Mathematics to consult and retrieve formal student feedback on a range of subjects.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the Mathematics' Student Staff Panel is responsible for reviewing proposed module changes and retrieving formal feedback from the elected student representatives on proposed module changes from the School of Mathematics' lecturers.

Computer Science's Student Staff Panel

The Computer Science's Student Staff Panel is a committee within the School of Computer Science and Informatics, which is made up of the Computer Science's Director of Teaching, Computer Science's AMR Owner, relevant Lecturers and elected Student representatives. The Computer Sciences' Student Staff Panel is a medium for Students and Lecturers to discuss issues, and for the School of Computer Science and Informatics to consult and retrieve formal student feedback on a range of subjects.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the Computer Science's Student Staff Panel is responsible for reviewing proposed module changes and retrieving formal feedback from the elected student representatives on proposed module changes from the School of Computer Science and Informatics' lecturers.

Students

Students are taught by Lecturers within the School of Computer Science and Informatics and/or the School of Mathematics.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the Students are responsible (if they wish to) for providing feedback to proposed module changes for the relevant modules they take, which are outlined on Learning Central by the Collaboration Leader.

Mathematics' Board of Studies

The Mathematics' Board of Studies is based in the School of Mathematics, and within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', exercises its responsibilities and functions as outlined in section 2.5.3 for proposed module changes for School of Mathematics' modules.

Computer Science's Board of Studies

The Computer Science's Board of Studies is based in the School of Computer Science and Informatics, and within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', exercises its responsibilities and functions as outlined in section 2.5.3 for proposed module changes for School of Computer Science and Informatics' modules.

<u>Office & Administration Team</u>

The Office and Administration Team is responsible for completing all day-to-day administrative tasks for both Schools.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the author assumes that the School of Computer Science and Informatics and the School of Mathematics will be able to share an Office and Administration Team as part of the process. The Office and Administration Team is responsible for uploading and updating all final approved module changes from both Schools into SIMS.

5.3.1.2 Technologies and Systems involved within the process

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the agents outlined in section 5.3.1.1 interact with and utilise the following technologies and systems throughout the process.

<u>Microsoft OneDrive</u>

Microsoft OneDrive is a file hosting service operated by Microsoft as part of its suite of Office Online services. It allows users to store files as well as other personal data. Files can be synced to a PC and accessed from a web browser or mobile device, as well as shared publicly or with specific people.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', Microsoft OneDrive is used by the School of Mathematics and the School of Computer Science and Informatics to store all module documentation.

<u>Learning Central</u>

Learning Central is Cardiff University's Virtual Learning Environment (VLE). Learning Central is used extensively for the delivery of course content and is a medium to effectively share materials such as documents, slides, images, video, etc. to individuals within, specifically Students, within individual Schools. The School of Mathematics and the School of Computer Science and Informatics both use Learning Central.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', Learning Central is used for the Collaboration Leader to collate and upload all proposed module changes which have gone through the SSP, for the larger student cohorts and year groups to examine if they desire to, and send feedback.

<u>Student Information Management System (SIMS)</u>

The Student Information Management System is a system which is used by Cardiff University to manage student data at a University level. The School of Computer Science and Informatics and the School of Mathematics update and upload data to the Student Information Management System when required from central University.

Within the '*Governance and Diligence Oriented Integrated Annual Module Review Process*', the Student Information Management System is the system in which the approved module changes are uploaded to.

5.3.1.3 The Main Components and Features

The main components and features of the '*Governance and Diligence Oriented Integrated Annual Module Review Process*' are as follows:

Planning and Preparation:
- Outline strategic objectives and how they align with the annual module review process
- Execution plan is developed by the Collaboration Leader and the AMR Owners to manage the process

Collection and Documentation:
- Lecturers are completely responsible for updating and documenting their proposed module changes within their relevant module documentation
- Additional checks and evaluations are part of the Collection and Documentation phase to identify any issues as early on as possible within the annual module review process
- If appropriate the College Quality Officer is available to implement a separate Major Change policy at College level

Consultation and Review:
- Lecturers are requested to verify the proposed module changes they have been made
- Computer Science's Student Staff Panel meeting to retrieve formal student feedback on proposed Computer Science module changes
- Mathematics' Student Staff Panel meeting to retrieve formal student feedback on proposed Mathematics module changes
- Learning Central page is used for wider student cohorts and year groups to provide informal student feedback on the proposed module changes
- Computer Science's Board of Studies to formally review and approve the proposed module changes for Computer Science proposed module changes
- Mathematics' Board of Studies to formally review and approved the proposed module changes for Mathematics proposed module changes

Data Inputting:
- Office and Administration team is used by both the School of Computer Science and Informatics and the School of Mathematics to upload all approved module changes from both schools into the SIMS.

Feedback and Improvement:

New stage and phase which did not exist in either current models as outlined in sections 4.1 and 4.5. This new phase is focused on reflection and self-evaluation, using feedback to improve the integrated process iteratively after each end-to-end execution.

- Collaboration Leader, Directors of Teaching and AMR Owners request feedback from all involved within the process to attempt to identify areas of improvement to make the AMR Process more effective and efficient.

5.3.1.4 Workflow Model and Detailed Description
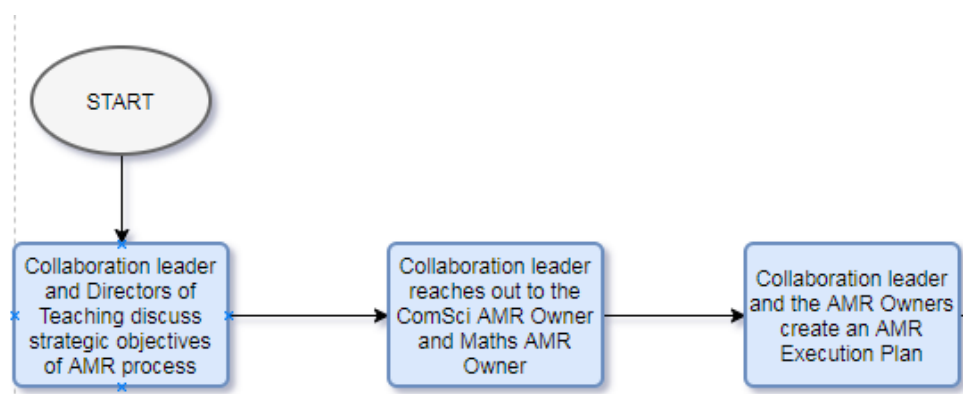
Figure 22 – Gov. & Diligence Integrated Model Part 1

The full workflow diagram for the '*Governance and Diligence Oriented Integrated Annual Module Review Process*' can be found under Appendix E.

The '*Governance and Diligence Oriented Integrated Annual Module Review Process*' begins at the start of the academic year in September, this is in consequence to the added complexity of managing both Schools and provides the greatest level of preparation and flexibility to both Schools.

The first step of the process is for a meeting to occur between the newly created role, Collaboration Leader (see section 5.3.1.1), the Mathematics' Director of Teaching, and the Computer Science's Director of Teaching to discuss and understand the strategic objectives and initiatives, from a School of Computer Science and Informatics' perspective and from a School of Mathematics' perspective.

Based on the strategic objectives and initiatives received and outlined from each Director of Teaching, the Collaboration Leader will attempt to identify ways in which the module review process can be aligned to support and aid in the achievement of those strategic objectives. An action by the Collaboration Leader based on those objectives, could involve deciding upon what supplement and additional information should be collected from Lecturers alongside their proposed module changes, to help achieve the strategic objectives.

Justification: The author has decided to align the AMR process with the strategic objectives and initiatives because of the advantages outlined in section 5.1.1. The author has decided to request further detail, supplement and additional information from Lecturers as part of the AMR process because of the advantage outlined in section 5.1.4.

Following the Collaboration Leader meeting with the individual Directors of Teaching, the Collaboration Leader reaches out to the Computer Science's AMR Owner and the Mathematics' AMR Owner for a meeting. Within this meeting the Collaboration Leader and AMR Owners create an AMR Execution Plan, which allows for the Collaboration Leader and AMR Owners to have an outline and blueprint of how they will manage the AMR process for that academic year.
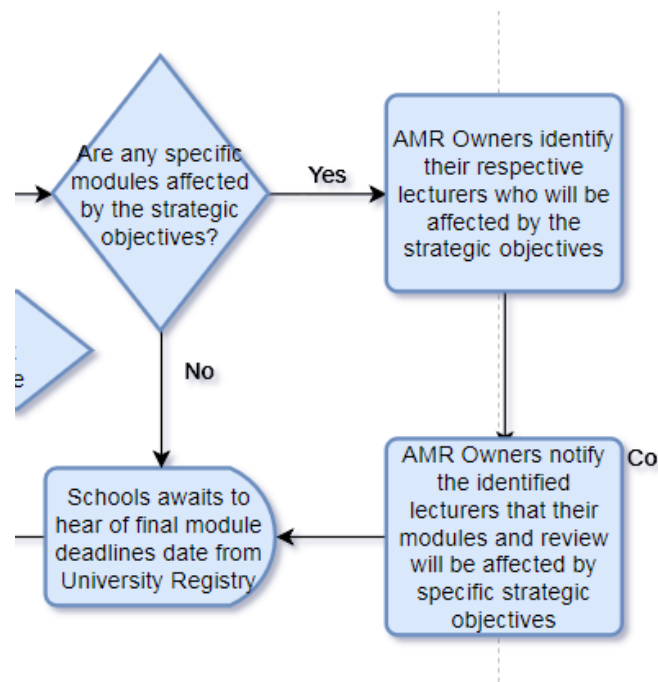
Figure 23 - Gov. & Diligence Integrated Model Part 2

Accordingly, to the AMR Execution Plan being developed, the AMR Owners will review the strategic objectives outlined by the Directors of Teaching, to understand if any specific modules are affected, which could have a direct impact on the context and content of a Lecturer's proposed module change.

In the event that the Collaboration Leader and the AMR Owners believe that the strategic objectives outlined by the individual Directors of Teaching, will have a significant direct impact on the context and content of a Lecturer's potentially proposed module change. The relevant AMR Owner (e.g. Computer Science AMR Owner for a Computer Science Lecturer) will identify the modules and Lecturer's which will be directly impacted.

Resulting from the identified modules and Lecturers which are responsible for those modules, the relevant AMR Owner notifies the Lecturer how the strategic objectives will affect their module, and as a result, the considerations they need to take when proposing their module changes later in the academic year.

After notifying the Lecturer, or if the Collaboration Leader and AMR Owners deem that the strategic objectives will not have a direct impact on a module and a Lecturer's potentially proposed module change, both, the School of Computer Science and Informatics and the School of Mathematics will await to hear from the University Registry of the deadline date, for all module changes to be approved and uploaded into SIMS by.
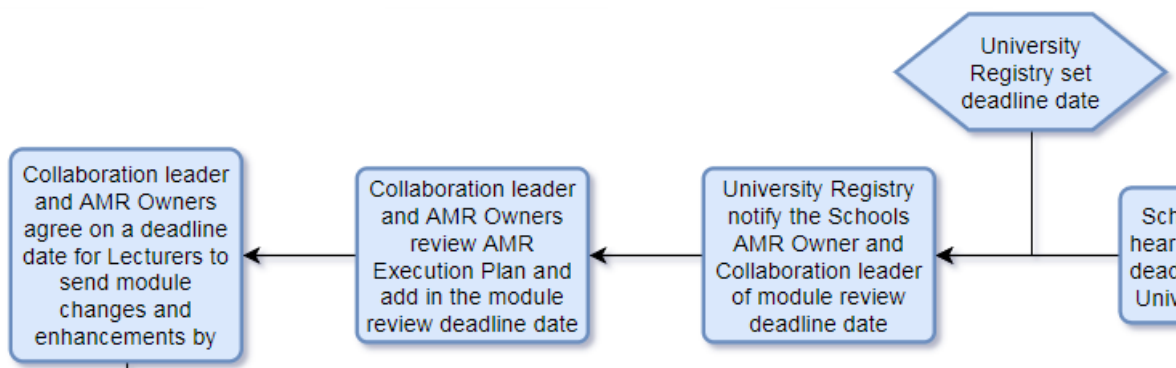
Figure 24 - Gov. & Diligence Integrated Model Part 3

Around January of the academic year, the University Registry will set a deadline date and notify the Collaboration Leader, the Mathematics' AMR Owner and the Computer Science's AMR Owner of the module review deadline date. The module review deadline date is the date in which all module changes must be approved by the Board of Studies and uploaded into SIMS.

Upon receiving the module review deadline date, the Collaboration Leader, the Mathematics' AMR Owner and the Computer Science's AMR Owner review the AMR Execution Plan they previously made earlier in the academic year. Together, they will adjust where appropriate the AMR Execution Plan to take into account the module review deadline date received from the University Registry. This ensures that the AMR Execution Plan is as suitable and effective as possible to manage the process.

After reviewing the AMR Execution Plan, the Collaboration Leader, the Mathematics' AMR Owner and Computer Science's AMR Owner agree a deadline date for the Lecturer's within both schools, to submit their proposed module changes and enhancements by.

Figures 22, 23 and 24 conclude the Planning and Preparation phase of the '*Governance and Diligence Oriented Integrated Annual Module Review Process*' which can take a total of 15 weeks to conclude, this takes into account holiday breaks and waiting periods for the University Registry to send a deadline date. Note to reader, section 5.3.1.5 explains in greater detail the expected duration of the entire process.
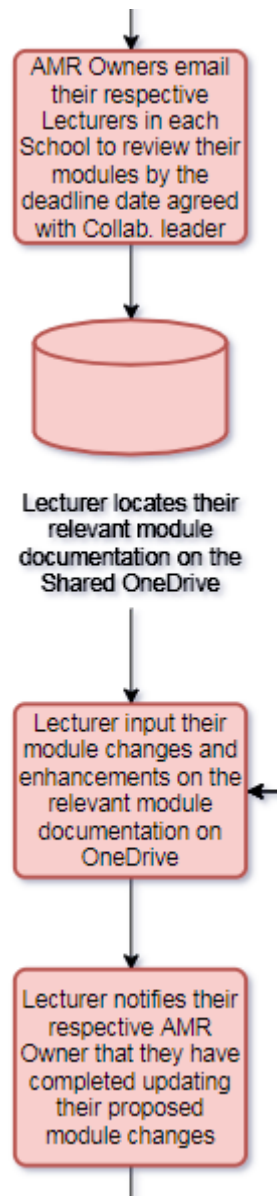
Figure 25 - Gov. & Diligence Integrated Model Part 4

Next, the Computer Science's AMR Owner notifies the Lecturers within the School of Computer Science and Informatics, and the Mathematics' AMR Owner notifies the Lecturers within the School of Mathematics to begin reviewing the modules they are responsible for, by the deadline agreed by the AMR Owners and the Collaboration Leader.

Upon the Lecturer's receiving the notification from the respective AMR Owner, the Lecturer will locate their relevant module documentation on Microsoft OneDrive.

Once the Lecturer locates their relevant module documentation, the Lecturer will input their module changes and enhancements, and as a result update the relevant module documentation on Microsoft OneDrive.

Justification: The author has decided to use Microsoft OneDrive as a technology within this process because of the advantages outlined in section 5.1.3. The author has decided for Lecturers to have full responsibility of inputting module changes as part of the process because of the advantages outlined in section 5.1.5.

After the Lecturer, completes inputting their module changes and updating their relevant module documentation, they will then send a notification to the respective AMR Owner (i.e. Mathematics' Lecturer notifies the Mathematics' AMR Owner) that they have completed inputting their proposed module changes.
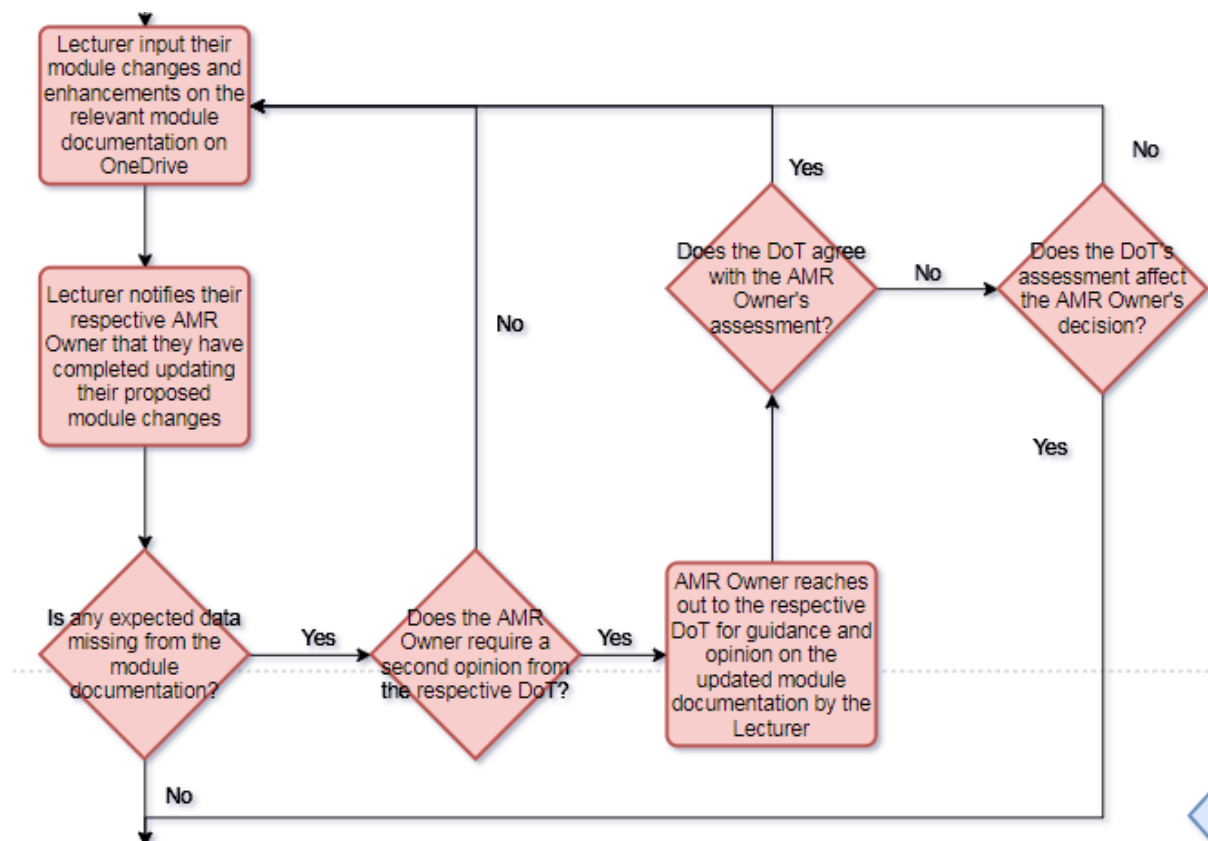
Figure 26 - Gov. & Diligence Integrated Model Part 5

As a result of the respective AMR Owner being notified by the Lecturer that they have completed inputting their module changes, and updating their relevant module documentation, the AMR Owner will conduct a first check of the proposed module changes.

The first check by the respective AMR Owner, is to see if any expected data or information which the Lecturer was required to submit in addition and as supplement to their proposed module changes, has been submitted. The type of data or information would have been decided by the Collaboration Leader in the Planning and Preparation phase, and the Lecturers made aware by their respective AMR Owners when notifying them to begin reviewing their respective modules.

If upon the AMR Owner conducting the check, they believe they have identified missing information or data which was expected to be submitted, the AMR Owner will decide whether or not the AMR Owner requires a second opinion. If the AMR Owner does not require a second opinion, they will notify and request the Lecturer to make corrections to their module documentation so that the additional data and information is complete.

However, in the event that the AMR Owner does require a second opinion after identifying missing data and information. The AMR Owner will reach out to their respective Director of Teaching (i.e. Computer Science's AMR Owner reaching out to the Computer Science's Director of Teaching) to ask if they agree that the Lecturer has missed out certain data and information which was required. If the respective Director of Teaching agrees with the AMR Owner's belief that certain data and information which was required has been missed by the Lecturer, the AMR Owner will then notify and request the Lecturer to make corrections to their module documentation.

In the event that the AMR Owner has reached out to their respective Director of Teaching, and the Director of Teaching disagrees with the AMR Owner's original assessment of the Lecturer missing supplement data and information, the AMR Owner must then decide if that disagreement leads to the AMR Owner changing their own assessment. If the AMR Owner does change their own assessment to deem that the Lecturer did NOT miss out any expected information, the AMR Owner will move on to the next check. Conversely, if the AMR Owner does NOT change their own assessment to deem that the Lecturer has missed out the expected information, the AMR Owner will continue to notify and request the Lecturer to make corrections to their module documentation, despite the Director of Teaching's input.
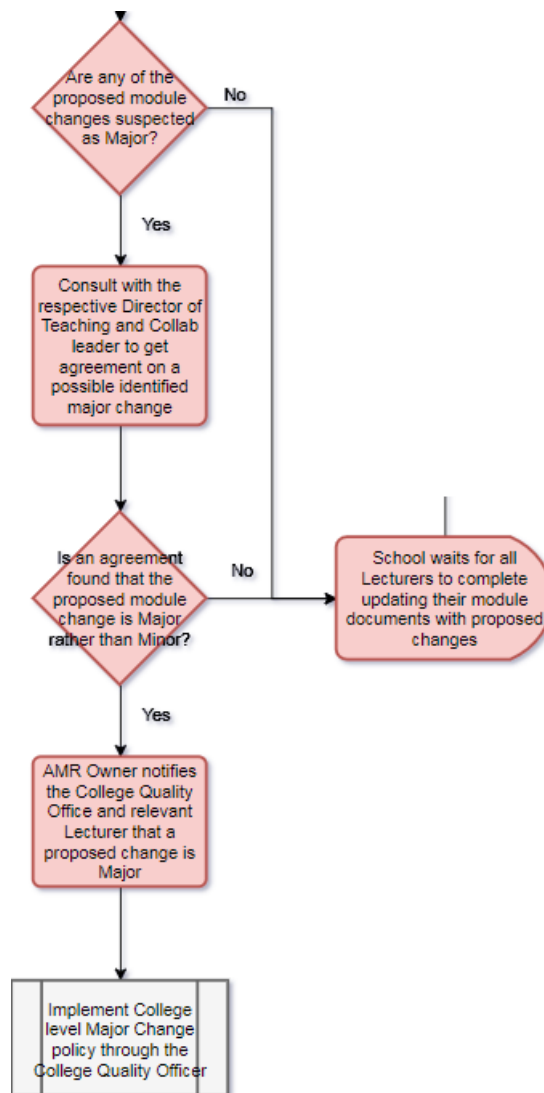
Figure 27 - Gov. & Diligence Integrated Model Part 6

Once the respective AMR Owner for each School has completed checking the proposed module changes have no incomplete or missing expected additional data and information, the AMR Owner will then examine the context and content of the enhancements and changes they want to make to the module, to ensure they are minor and not major.

Justification: The author has decided for a Major change check to be part of the process before the Board of Studies because of the advantages outlined in section 5.1.6.

If when the AMR Owner conducts the Major change check against the proposed module changes and the AMR Owner has no concerns and is sure that it is a minor change proposed. Both Schools will then wait for all Lecturers to complete updating their module documents and the AMR Owner conducting all the checks against them.

However, if when the AMR Owner conducts the Major change check against the proposed module changes and the AMR Owner has a concern, that a proposed change is not minor, but a potentially a major change. The AMR Owner will then reach out to their respective Director

of Teaching (i.e. Mathematics' AMR Owner reaches out to the Mathematics' Director of Teaching) and the Collaboration Leader to discuss the concern and find an agreement as to whether or not the concern from the AMR Owner is founded.

If the respective AMR Owner, Director of Teaching and the Collaboration Leader are discussing the potentially identified proposed major change, and the final agreement is that the proposed change is not major, both Schools will then wait for all Lecturers to complete updating their module documentation and the AMR Owner conducting all the checks against them.

On the other hand, if the respective AMR Owner, Director of Teaching and the Collaboration Leader agree with the AMR Owner's original assessment and concern, that a proposed module change is major, the respective AMR Owner will notify the College Quality Officer that a proposed major change has been found and as a result the College Quality Officer needs to execute and implement the Major Change policy at College level. The AMR Owner will also notify the relevant Lecturer and notify them to await further instructions from the College Quality Officer as it is a separate process (Major Change policy) from the annual module review process.
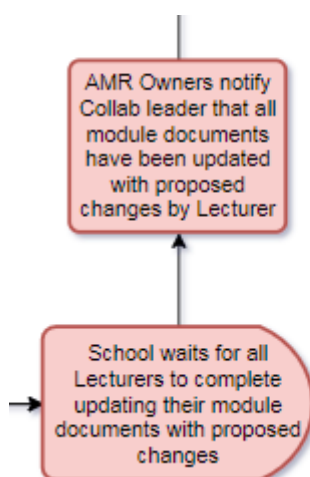
Figure 28 - Gov. & Diligence Integrated Model Part 7

After both Schools wait for all the Lecturers within the School of Computer Science and Informatics and the School of Mathematics complete updating their module documentation with their proposed module changes, and the AMR Owners have conducted their checks and evaluations. The AMR Owners will then notify the Collaboration Leader that all module changes and enhancements have been collected.

Figures 25, 26, 27 and 28 conclude the Collection and Documentation phase of the '*Governance and Diligence Oriented Integrated Annual Module Review Process*' which can take a total of 4 weeks to conclude. Note to reader, section 5.3.1.5 explains in greater detail the expected duration of the entire process.

Figure 29 - Gov. & Diligence Integrated Model Part 8

In consequence to the Collaboration Leader receiving a notification from the Computer Science's AMR Owner and the Mathematics' AMR Owner, that all Lecturers have completed documenting their proposed module changes and enhancements, the Collaboration Leader requests the AMR Owners to inform their respective Lecturers to conduct a final verification check, to ensure they are satisfied with the changes and enhancements they have proposed. This is to ensure that all proposed module changes documented and collected are accurate before they are reviewed within the process.

When the AMR Owners receive the notification from the Collaboration Leader, the AMR Owners contact their respective Lecturers to check they are happy and satisfied with the changes they have proposed for their modules. The notification will also include a deadline date in which the Lecturers must make any minor corrections if required by that date.

Upon the Lecturers receiving the notification from the AMR Owners, the Lecturers go on Microsoft OneDrive to locate the module documentation they previously updated with their module changes and verify that the Lecturer is satisfied with the changes they have proposed.

If when the Lecturer checks their proposed module changes, the Lecturer verifies that they are satisfied with the proposed changes they made, the Lecturer does nothing, and both Schools wait for the deadline they gave for Lecturers to check their proposed changes to pass.

If when the Lecturer checks their proposed module changes, the Lecturer is unable to verify that they are satisfied with the proposed changes they made, the Lecturer makes minor corrections and adjustments to their proposed changes to ensure they are satisfied, followed by notifying their respective AMR Owner of the minor correction and adjustment they have made.

Meanwhile, both Schools will wait until the deadline date for Lecturers to check their proposed changes have passed before progressing the process further.
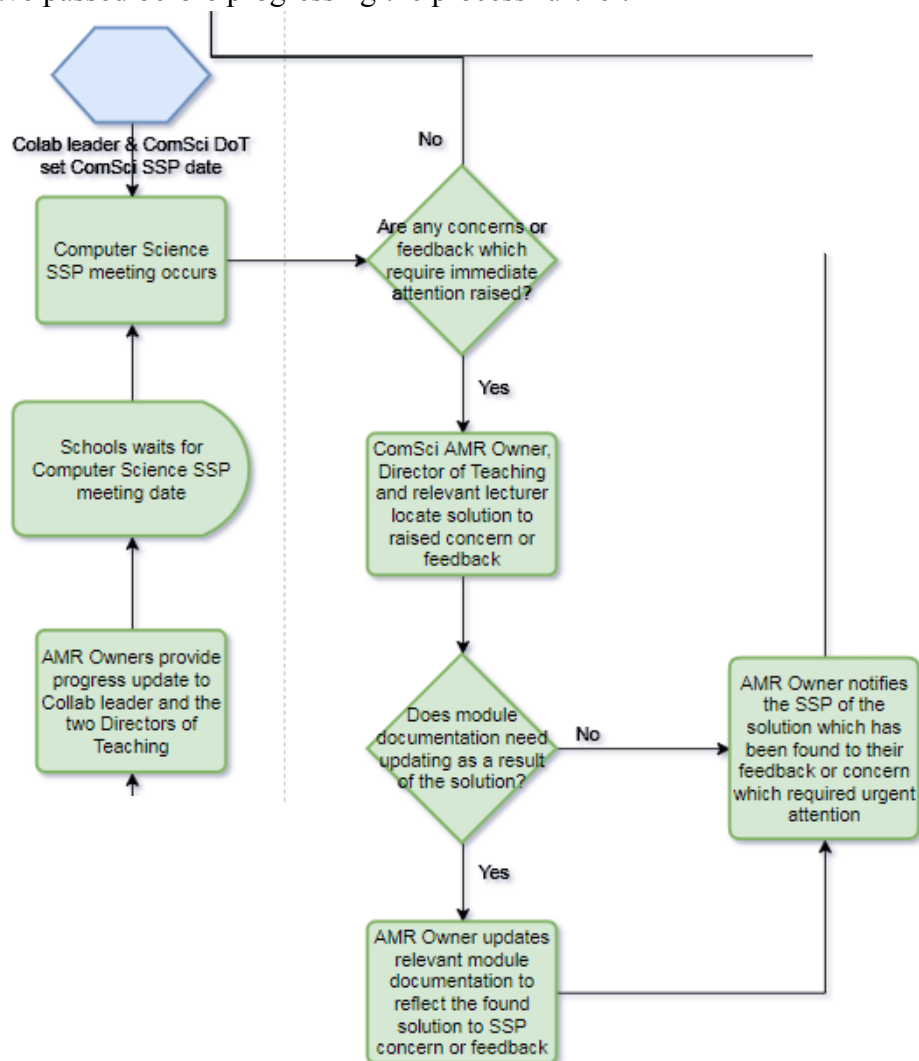
Figure 30 - Gov. & Diligence Integrated Model Part 9

After the deadline has passed for Lecturers to double-check they are satisfied with the module changes that they have proposed. The Computer Science's AMR Owner, the Mathematics' AMR Owner, the Computer Science's Director of Teaching, the Mathematics' Director of Teaching and the Collaboration Leader convene to discuss the progress and status of the annual module review process to date. This convening allows for all leaders within the process to be up to date with all the necessary information and details of the status and progress of the annual module review process.

Once the meeting has concluded between these agents within the process, the School of Computer Science and Informatics and the School of Mathematics will be waiting for their individual Student Staff Panel meetings to occur.

Please note the author has made the assumption that it is possible for SSPs within each school to take place at a suitable and convenient time to align with the annual module review process.

The Computer Science and Informatics SSP occurs first within the process. The date of Computer Science's Student Staff Panel is decided by the Computer Science's Director of Teaching and the Collaboration Leader as part of the Planning and Preparation phase.

When the date of the Computer Science's Student Staff Panel arrives, the meeting takes place. As part of the meeting the Computer Science Student Staff Panel reviews the proposed module changes in an attempt to retrieve formal student feedback from the elected student representatives who are members of the SSP.

If there are no concerns or feedback raised from the SSP which requires urgent attention, no more action is required from the School of Computer Science at this moment within the process. The next step in the larger process, is to wait for the School of Mathematics SSP to take place.

If there are concerns or feedback raised from the SSP which does require urgent attention, the Computer Science's AMR Owner, Lecturer and the Computer Science's Director of Teaching will identify a solution to the concern raised. The Computer Science's AMR Owner will then check whether or not the solution identified to the raised concern, requires any changes to the module documentation. If the module documentation does not require any changes, the AMR Owner will notify the SSP of the solution found for their raised concern. However, if the module documentation does require changes as a result of the solution identified, the AMR Owner will update the module documentation and then notify the SSP of the solution found for their raised concern.

Justification: The author decided to go with two individual SSP meetings, a separate SSP for the School of Computer Science and Informatics, and a separate SSP for the School of Mathematics for the reasons outlined in section 5.2.5.
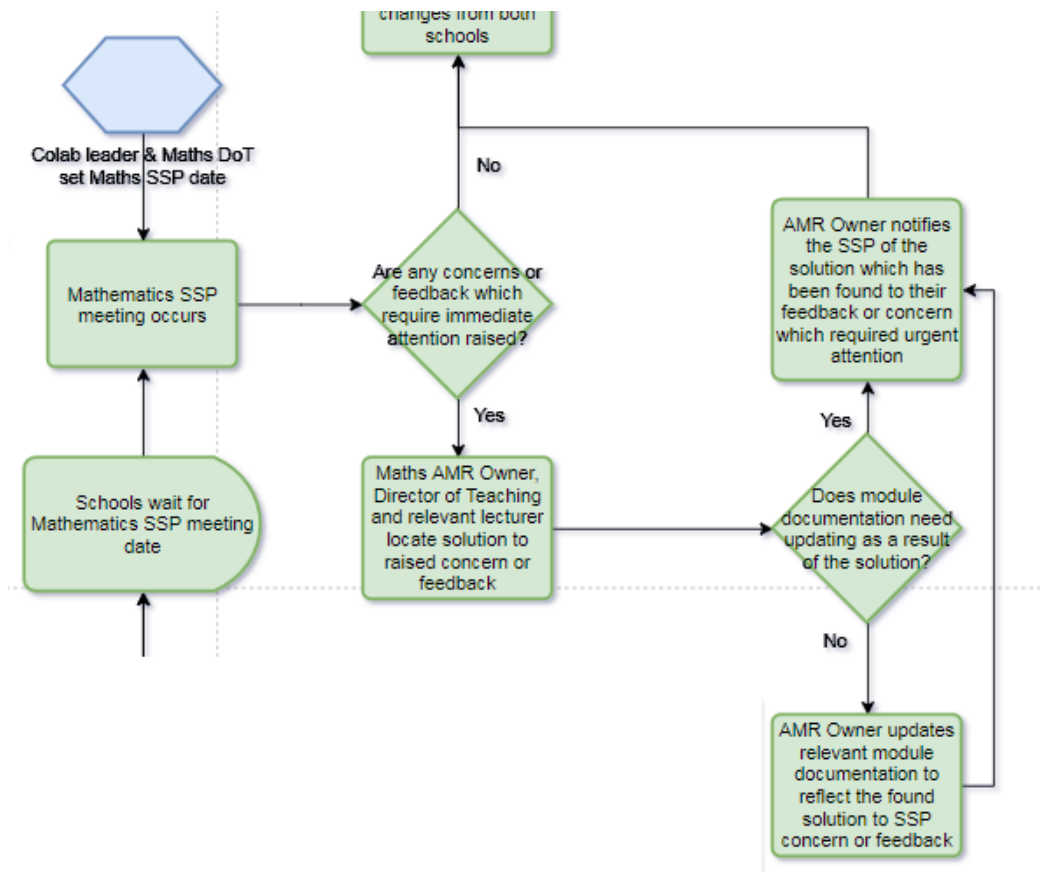
Figure 31 - Gov. & Diligence Integrated Model Part 10

Once the Computer Science's Student Staff Panel concludes, the School of Mathematics waits for the Mathematics' Student Staff Panel to occur. Please note, the author does believe it is possible for both SSPs to run concurrently but for the sake of presentation within the flowchart, the author acted as if they were potentially a week apart.

The date of the Mathematics' Student Staff Panel is decided by the Mathematics' Director of Teaching and the Collaboration Leader as part of the Planning and Preparation phase.

The same functions and actions are executed as the ones described under Figure 30 for the Computer Science's Student Staff Panel.

Justification: The author has decided for student consultation in the format of using a Learning Central page to reach larger student cohorts and year groups, and using Student Staff Panels, because of the advantages listed in section 5.1.7.
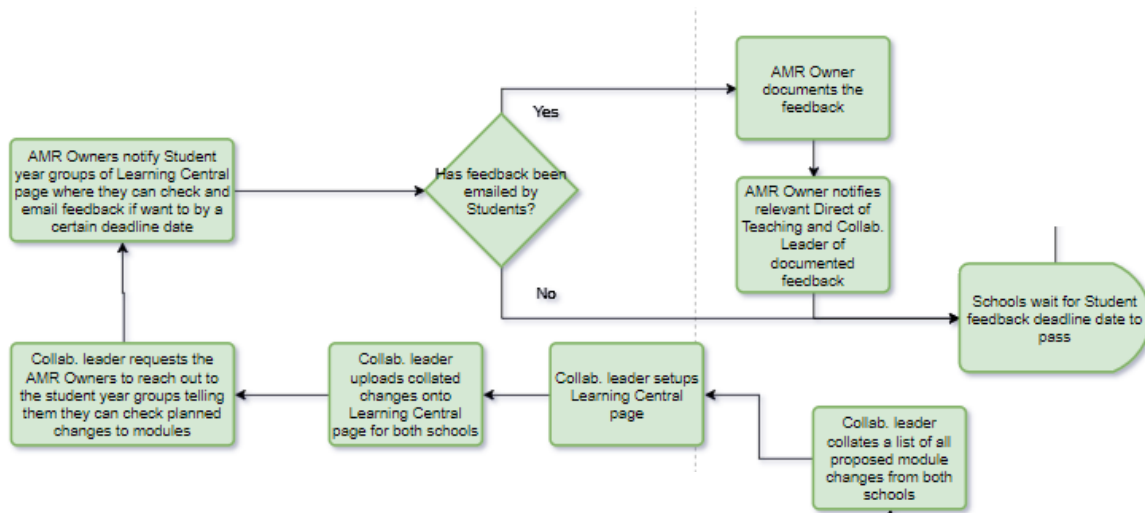
Figure 32 - Gov. & Diligence Integrated Model Part 11

After both the Computer Science's Student Staff Panel and the Mathematics' Student Staff Panel have concluded, and where appropriate module documentation updated to reflect the solutions to urgent concerns and feedback raised within the SSP meetings. The Collaboration Leader collates a list of all the proposed module changes from both Schools.

After that the Collaboration Leader sets up the Learning Central page and uploads the collated lists of proposed modules changes on to the Learning Central page, which can be accessed by Students from both Schools.

Once the Learning Central Page has been setup by the Collaboration Leader, and the collated list of proposed module changes uploaded onto the Learning Central Page, the Collaboration Leader reaches out to the Computer Science's AMR Owner and the Mathematics' AMR Owner requesting them to reach out to their student cohorts and year groups.

The AMR Owners then email their respective student year groups and cohorts, requesting them to go onto the Learning Central Page, read through the proposed module changes that are most appropriate to them, and provide informal feedback if they desire or feel the need to by a specific deadline.

Both Schools will wait for the deadline to pass before progressing on within the process.

If while waiting for the deadline to pass, Students email feedback in regard to certain proposed module changes on the Learning Central Page, the respective AMR Owner will document their feedback, thanking the Student, followed by notifying the respective Director of Teaching (i.e. Mathematics' AMR Owner notifying Mathematics' Director of Teaching) and the Collaboration Leader, so they are aware. However, as it is informal student feedback no further action will be taken, but it is documented, so if required will be addressed at the Board of Studies meeting later on within the process.
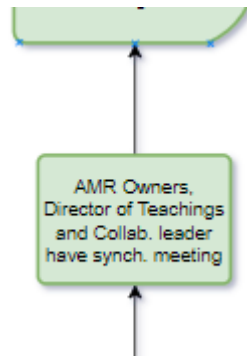
Figure 33 - Gov. & Diligence Integrated Model Part 12

Once the deadline has passed for Students to email informal feedback based on the proposed module changes on Learning Central. The AMR Owners, Directors of Teaching and the Collaboration Leader convene and meet to discuss the current progress and status of the annual module review process, as well as prepare for the upcoming Board of Studies' meetings.
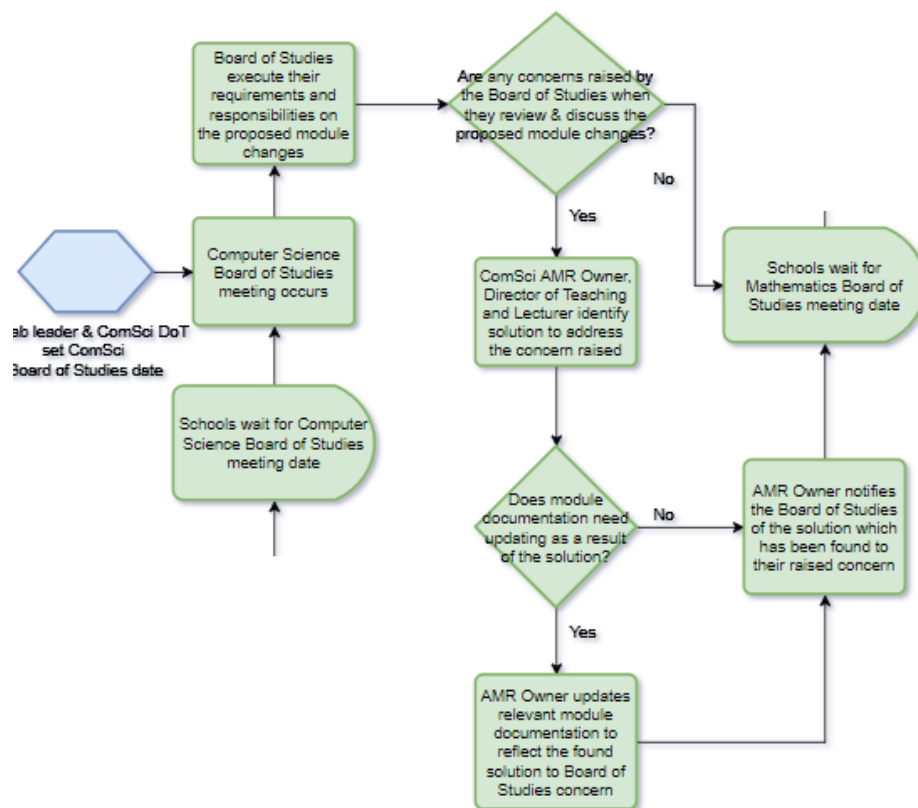
Figure 34 - Gov. & Diligence Integrated Model Part 13

After the synchronisation meeting has occurred between the Collaboration Leader, the Directors of Teaching and the AMR Owners, the next steps within the process is for the Board of Studies' meetings to take place individually within each School.

Justification: The author has decided for there to be separate Board of Studies meetings, meaning a Computer Science's Board of Studies and a Mathematics' Board of Studies because of the reasons outlined in section 5.2.4.

The date of the Computer Science's Board of Studies is decided by the Computer Science's Director of Teaching and the Collaboration Leader as part of the Planning and Preparation phase.

When the Board of Studies convenes it executes its requirements and responsibilities against the proposed module changes as outlined in section 2.5.3.

If when the Board of Studies convenes there are no concerns raised, and the Board of Studies approves of all proposed module changes within the School of Computer Science and Informatics, then the next step within the process is the Mathematics' Board of Studies.

However, if when the Board of Studies convenes there are concerns raised, the Computer Science's AMR Owner, the Computer Science's Director of Teaching and the Lecturer identify a solution to the concern raised by the Board of Studies. If the solution found to the raised concern requires adjustment to module documentation, the AMR Owner will adjust the module documentation and make the correction, followed by notifying the Board of Studies of the solution found. Otherwise, if the solution found does not require adjusting the module documentation, the AMR Owner will simply notify the Board of Studies of the solution found as soon as it is identified.

Once the Computer Science's Board of Studies concludes, and all the proposed module changes are approved. The next step within the process is to wait for the School of Mathematics' Board of Studies to occur. The author believes that each Board of Studies meeting should have a week gap between them, in order to allow the Collaboration Leader to attend both, and where appropriate any other School of Computer Science staff in the event their input is required (the same applies for School of Mathematics' staff attending the Computer Science's Board of Studies).
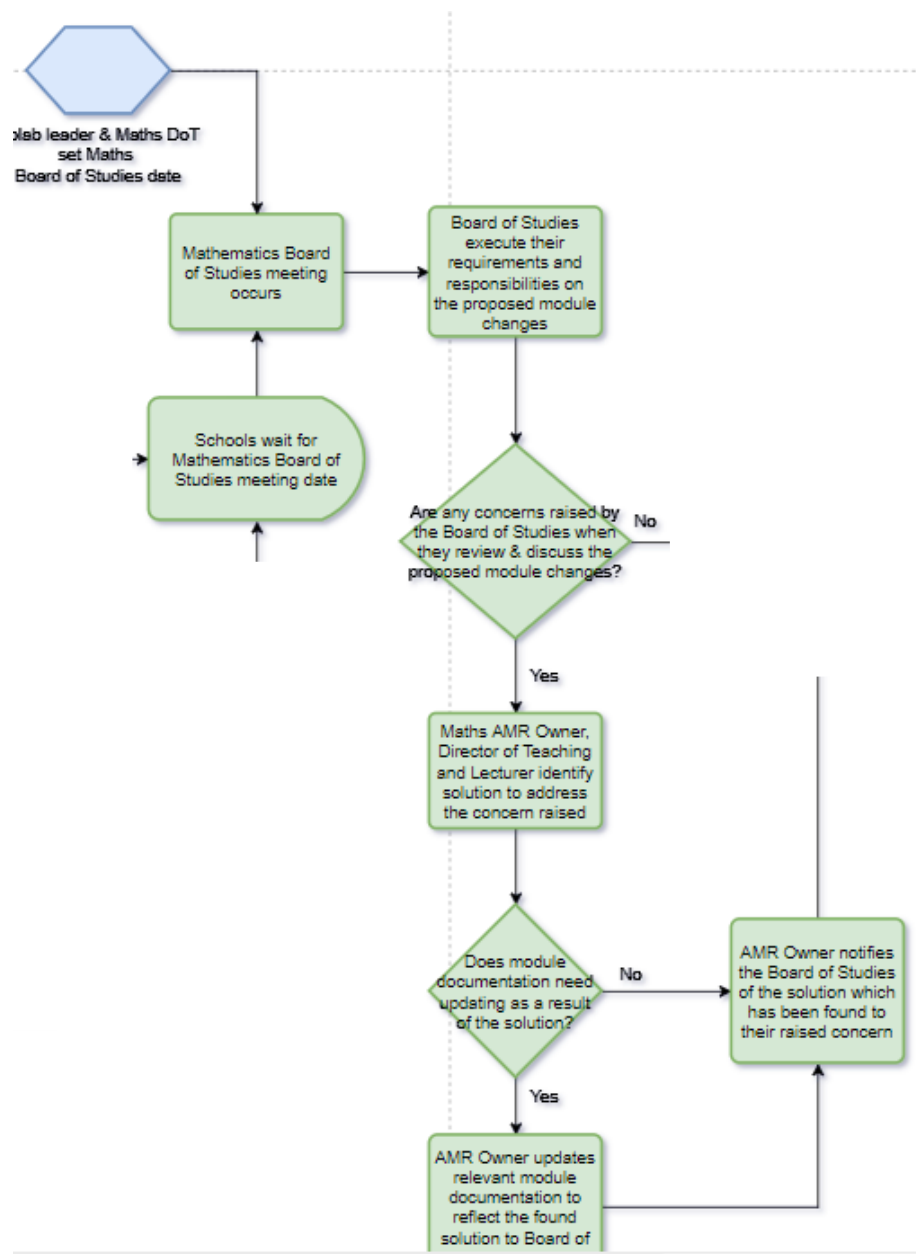
Figure 35 - Gov. & Diligence Integrated Model Part 14

Once the Computer Science's Board of Studies concludes, the School of Mathematics waits for the Mathematics' Board of Studies to occur.

The date of the Mathematics' Board of Studies meeting is decided by the Mathematics' Director of Teaching and the Collaboration Leader as part of the Planning and Preparation phase.

The same functions and actions are executed as the ones described under Figure 34 for the Computer Science's Board of Studies meeting.
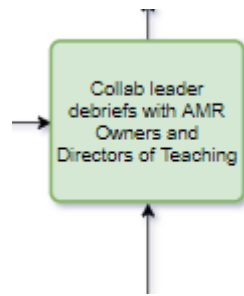
Figure 36 - Gov. & Diligence Integrated Model Part 15

After the Computer Science's Board of Studies approves their proposed module changes, and the Mathematics' Board of Studies approves their proposed module changes, the Collaboration Leader will convene with both AMR Owners and Directors of Teaching.

As part of this meeting the leadership team of the process will debrief and discuss the progress and status of the annual module review process to date, as the Consultation and Review phase concludes.

Figures 29, 30, 31, 32, 33, 34, 35 and 36 conclude the Consultation and Review phase of the '*Governance and Diligence Oriented Integrated Annual Module Review Process*' which can take a total of 4 weeks to conclude. Note to reader, section 5.3.1.5 explains in greater detail the expected duration of the entire process.
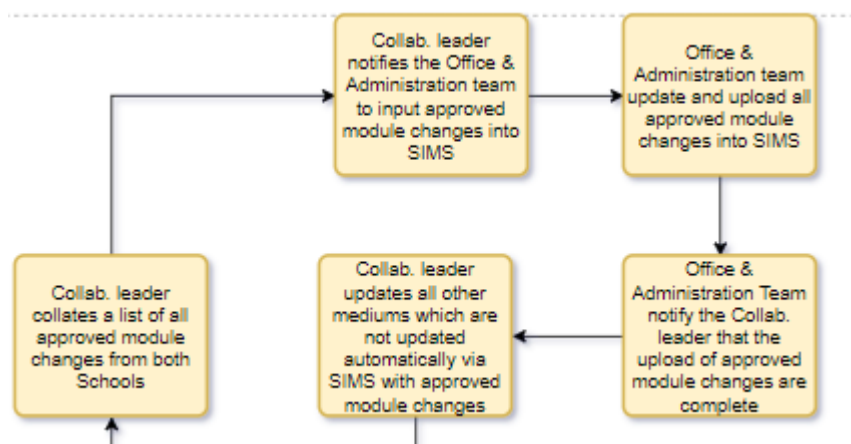
Figure 37 - Gov. & Diligence Integrated Model Part 16

After the Collaboration Leader debriefs with the AMR Owners and Directors of Teaching, the Collaboration Leader will then collate a list of all the approved module changes from both Schools, and the Data Inputting phase will commence.

Once the Collaboration Leader has collated a list of all the approved module changes from both Schools, the Collaboration Leader will notify the Office and Administration Team to input the approved module changes into SIMS. Please note, the author is assuming that the School of Computer Science and Informatics and the School of Mathematics will have access to the same Office and Administration team within the new state-of-the-art facility.

Justification: The author has decided to use the Office and Administration Team for uploading the Board of Studies approved module changes because of the advantages outlined in section 5.1.8.

Upon the Office and Administration Team receiving the collated list of approved module changes from the Collaboration Leader, the Office and Administration Team will upload the collated list of approved module changes into SIMS.

After that task is completed, the Office and Administration Team will notify the Collaboration Leader that all approved module changes have been uploaded and updated into SIMS.

As a result, the Collaboration Leader will then proceed to update any other mediums with the approved module changes, which do not automatically pull their data and information from SIMS.

Figure 37 concludes the Data Inputting phase of the '*Governance and Diligence Oriented Integrated Annual Module Review Process*' which can take a total of 3 weeks to conclude. Note to reader, section 5.3.1.5 explains in greater detail the expected duration for the entire process.
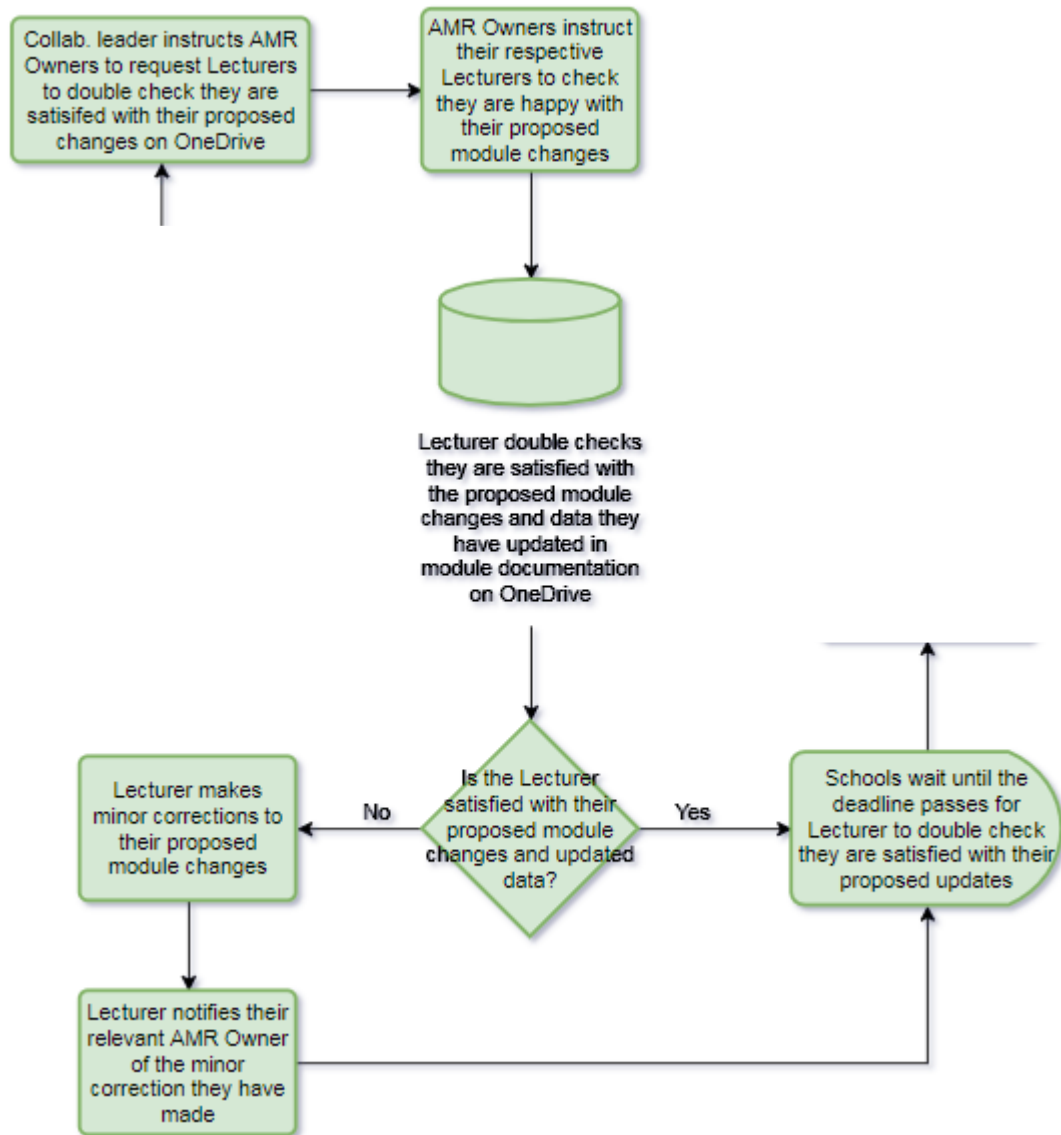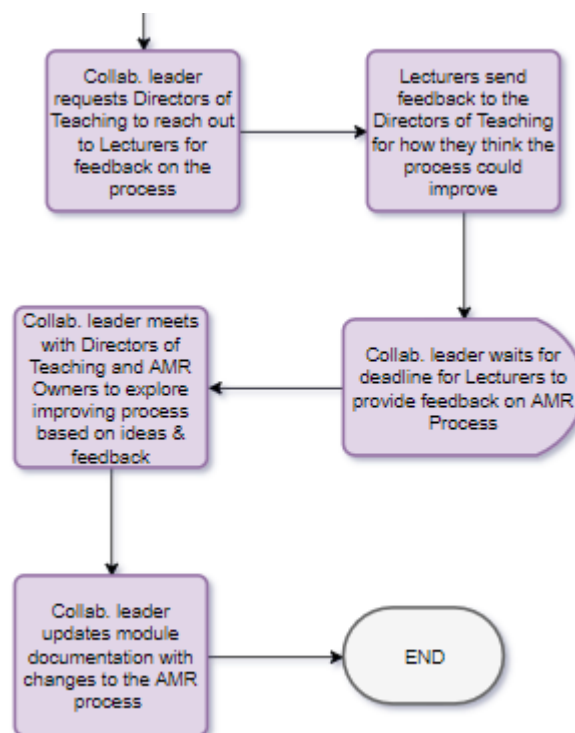

Figure 38 - Gov. & Diligence Integrated Model Part 17

At this point, the final phase of the annual module review process begins, Feedback and Improvement, and the Collaboration Leader requests the Mathematics' Director of Teaching and the Computer Science's Director of Teaching to reach out to their respective Lecturers in

each School, asking for suggestions and feedback in terms of how the annual module review process can be improved.

When the Lecturers receive the notification from their respective AMR Owners, and they have feedback or suggestions on how to improve the annual module review process, they will email and document their ideas for how the process can be improved.

After a certain period of time, in which the Collaboration Leader, and the Directors of Teaching wait to receive feedback from Lecturers within each School, they will then convene along with both AMR Owners, to discuss the feedback and try to outline how the feedback can be translated into process changes.

Once the feedback is discussed and process changes agreed by the leadership team within the annual module review process, the Collaboration Leader will then update all process documentation with the agreed process changes, so the documentation reflects accurately the augmented process for the next academic year.

Justification: The author decided to introduce a new phase in the form of Feedback and Improvement, because:
- Provides a continuous and iterative way to continually and organically improve the process over time
- Provides a formal mechanism within the process to address any issues or concerns from the Schools
- Allows for all agents to contribute to the methods of the annual module review process - not just the leadership team - which could increase positive and constructive involvement from both Schools' staff
- Ensures that formal process documentation is always accurate and up to date, making it easier to transfer explicit knowledge

Figure 38 concludes the Feedback and Improvement phase of the '*Governance and Diligence Oriented Integrated Annual Module Review Process*' which can take a total of 4 weeks to conclude. Note to reader, section 5.3.1.5 explains in greater detail the expected duration for the entire process.

This concludes the workflow for the proposed '*Governance and Diligence Oriented Integrated Annual Module Review Process*'.

5.3.1.5 Process Execution Duration
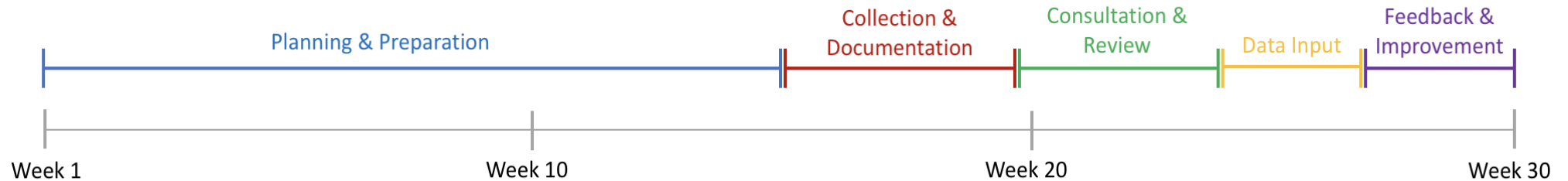
Planning and Preparation:
- Expected Duration – *15 weeks* (includes Christmas and New Year break)
- Assumption – before the Collection and Documentation phase can begin, i.e. the AMR Owners request the Lecturers to begin documenting their proposed module changes, the Schools must receive the deadline date from the University Registry. If the assumption can be discredited by the School of Mathematics and the School of Computer Science and Informatics, then the Collection and Documentation phase could start earlier and overlap with the Planning and Preparation phase which would help to reduce the total duration of the process. This assumption is based on how the current individual and unintegrated processes within each School currently execute their AMR
- Expected Month Start to End - *September to January*
- Expected Week Start to End - *Week 1 to Week 15*

Collection and Documentation:
- Expected Duration – *4 weeks*
- Expected Month Start to End - *January to February*
- Expected Week Start to End – *Week 15 to Week 19*

Consultation and Review:
- Expected Duration – *4 weeks*
- Expected Month Start to End – *February to March*
- Expected Week Start to End – *Week 19 to Week 23*

- Expected Duration – *3 weeks*
- Expected Month Start to End – *March to April*
- Expected Week Start to End – *Week 23 to 26*

Feedback and Improvement:

- Expected Duration – *4 weeks*
- Expected Month Start to End – *April to May*
- Expected Week Start to End – *Week 26 to Week 30*

Total Expected Duration = 30 weeks (8 to 9 months) – as mentioned under 'Planning and Preparation', a maximum amount of 4 weeks could be removed from the total expected duration if Collection and Documentation phase could commence and overlap towards the end of the Planning and Preparation phase

5.3.1.6 Author Justifications

Below the author explicitly outlines the references and justifications for the main configurations and parts of the process:

- The '*Governance and Diligence Annual Module Review Process*' begins in September and aligns with strategic initiatives and objectives set by the School of Computer Science and Informatics and the School of Mathematics, because of the advantages outlined in section 5.1.1.
- The Director of Teaching involvement within the process is reduced because of the introduced and newly created 'Collaboration Leader' role, and as a result the Director of Teaching holds a more advisory and consultation role when needed by the Collaboration Leader, and the respective AMR Owners within the process. The advantages outlined in section 5.1.2 for reduced Director of Teaching involvement, and the reasons for a new role (Collaboration Leader) outlined in section 5.2.3 aided the author in coming to this discussion.
- The technology used for storing, collecting and hosting module documentation is Microsoft OneDrive because of the advantages outlined in 5.1.3.
- The process collects supplement data and additional information along with the proposed module changes from the Lecturers because of the advantages outlined in section 5.1.4.
- Lecturers are completely responsible for inputting their proposed module changes no matter how simple or quick they may be, as a result of the advantages outlined in section 5.1.5.
- A formal Major change check against proposed module changes occurs before Board of Studies as part of the Collection and Documentation phase, because of the advantages outlined in the section 5.1.6.

- Student consultation is a significant and large part of the Consultation and Review phase in the form of using Learning Central and Student Staff Panels, because of the advantages outlined in section 5.1.7.
- Within the process there are two Student Staff Panel meetings which take place between each school, meaning an exclusive and separate Student Staff Panel for the School of Computer Science and Informatics, and an exclusive and separate Student Staff Panel for the School of Mathematics because of the reasons and points argued in section 5.2.5.
- The Office and Administration Team is responsible for uploading and updating the approved module changes into the SIMS, because of the advantages outlined in section 5.1.8.
- The process is managed and lead at the top by the newly created role Collaboration Leader, because of the reasons and points argued in section 5.2.3. The Collaboration Leader works in partnership with the Directors of Teaching within each school who provide strategic input from each School's perspective, and the Collaboration Leader coordinates the execution of the AMR process with the AMR Owners in each School to push the process along.
- Within the process there are two individual Board of Studies which take place between each school, meaning an exclusive and separate Board of Studies for the School of Computer Science and Informatics, and an exclusive and separate Board of Studies for the School of Mathematics because of reasons and points argued in section 5.2.4.

5.3.1.7 Business Rules

To correspond alongside the workflow model in the form of a flowchart and a detailed description. See Appendix K for the '*Governance and Diligence Oriented Integrated Annual Module Review Process'* business rules. These business rules follow the same format as outlined in section 4.3.

There is a total of 166 business rules for the Governance and Diligence Oriented Integrated Annual Module Review Process.

Note to the reader, when examining the business rules in Appendix K, a range of colours are used as a form of highlighting to distinguish certain rules. The colours have the following meaning:
- **Planning and Preparation** – *Blue*
- **Collection and Documentation** – *Red*
- **Consultation and Review** – *Green*
- **Data Inputting** – *Yellow*
- **Feedback and Improvement** - *Purple*

The colour of the highlighted business rule refers to the phase in which that business rule belongs to.

5.3.1.8 Conclusion and Executive Summary

The proposed Governance and Diligence Oriented integrated annual module review process, is a model which focuses and prioritises control and attentiveness to the module changes which are proposed by Lecturers, in an attempt to ensure that the proposed module changes and enhancements are of the highest quality, have potential for the greatest positive impact and are fully compliant with expectations and University policy.

As a result of these priorities, speed of execution is compromised, and the duration of the process is expected to take between 26 to 30 weeks, starting in September and ending in late April / early May.

There are total of five phases within the process, which include: Planning and Preparation, Collection and Documentation, Consultation and Review, Data Inputting and the newly created phase (in comparison to current unintegrated module review process phases), Feedback and Improvement.

The Collaboration Leader is a proposed new role which sits on the management teams of both the School of Computer Science and Informatics and the School of Mathematics, who is responsible for guiding, driving and leading the process for both Schools. Ultimately, the Collaboration Leader bridges the gap between the two schools and attempts to integrate School operations where greater innovation, effectiveness or efficiency can be unlocked.

The Governance and Diligence Oriented integrated annual module review process is a model extremely focused and concentrated on the side of ensuring control and attentiveness.

5.3.2   Speediness and Expedition Oriented Integrated Annual Module Review Process

The second proposed integrated annual module review process is one which is oriented for speediness and expedition for the School of Computer Science and Informatics and the School of Mathematics.

The '*Speediness and Expedition Oriented Integrated Annual Module Review Process*' focuses and prioritises reducing complexity as well as streamlining and minimising unrequired components and features of the process where possible. For example, removing student consultation and having a single Board of Studies between both Schools.

As a result, this contributes to reducing the total duration for the execution and completion of the annual module review process by the School of Computer Science and Informatics and the School of Mathematics.

Below the author outlines and expounds the workflow of a potential Governance and Diligence Oriented Integrated Annual Module Review Process.

5.3.2.1 Agents involved within the process

Below describes the agents and their roles within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*'.

Computer Science's Director of Teaching

The Computer Science's Director of Teaching is responsible for driving and improving the quality and delivery of teaching within the School of Computer Science and Informatics. The Computer Science's Director of Teaching is a member of the School of Computer Science and Informatics' management team.

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', the Computer Science's Director of Teaching is responsible for working with the Mathematics' Director of Teaching to guide and direct the annual module review process between both Schools. As well as provide advice to the Computer Science's AMR Owner when they may require it.

Mathematics' Director of Teaching

The Mathematics' Director of Teaching is responsible for driving and improving the quality and deliver of teaching within the School of Mathematics. The Mathematics' Director of Teaching is a member of the School of Mathematics' management team.

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', the Mathematics' Director of Teaching is responsible for working with the Computer Science's Director of Teaching to guide and direct the annual module review process between both Schools. As well as provide advice to the Mathematics'' AMR Owner when they may require it.

Computer Science's Annual Module Review Owner

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', the Computer Science's Annual Module Review Owner is responsible for facilitating, smoothing and enabling the process within the School of Computer Science and Informatics.

Mathematics' Annual Module Review Owner

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', the Mathematics' Annual Module Review Owner is responsible for facilitating, smoothing and enabling the process within the School of Mathematics.

Board of Studies

The Board of Studies is joint between the School of Mathematics and the School of Computer Science and Informatics, and within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', exercises its responsibilities and functions as outlined in section 2.5.3 for proposed module changes for both the School of Mathematics, and the School of Computer Science and Informatics' modules.

Assumption: The author is proposing this joint Board of Studies on the basis that Cardiff University would approve a joint Board of Studies between the School of Computer Science and Informatics and the School of Mathematics, instead of having to have separate ones.

Lecturers

A Lecturer can be a member of either the School of Mathematics or the School of Computer Science and Informatics. A Lecturer is responsible for delivering the teaching of relevant subject fields relevant to each school to their respective students.

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', the Lecturer is responsible for updating their relevant module documentation with their proposed module changes and enhancements, providing the requested data, and supporting the respective AMR Owner whenever required for the process to be executed correctly and efficiently.

College Quality Officer

The College Quality Officer is a member of the College of Physical Sciences and Engineering. The College Quality Officer is responsible for ensuring the Schools within the College of Physical Sciences and Engineering meet their relevant obligations to ensure the maximum and highest level of quality within their processes is assured.

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', the College Quality Officer is responsible for executing and implementing the Major Change policy at college level, if the AMR Owner identifies a proposed module change by a Lecturer, which is not minor, but instead major.

University Registry

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', the University Registry is responsible for setting the deadline for which the School of Mathematics and the School of Computer Science and Informatics must submit all their approved module changes by via SIMS.

<u>Office and Administration Team</u>

The Office and Administration Team is responsible for completing all day-to-day administrative tasks for both Schools.

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', the author assumes that the School of Computer Science and Informatics and the School of Mathematics will be able to share an Office and Administration Team as part of the process. The Office and Administration Team is responsible for uploading and updating all final approved module changes from both Schools into SIMS.

5.3.2.2 Technologies and systems involved within the process

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', the agents outlined in section 5.3.2.1 interact with and utilise the following technologies and systems throughout the process.

<u>Microsoft OneDrive</u>

Microsoft OneDrive is a file hosting service operated by Microsoft as part of its suite of Office Online services. It allows users to store files as well as other personal data. Files can be synced to a PC and accessed from a web browser or mobile device, as well as shared publicly or with specific people.

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', Microsoft OneDrive is used by the School of Mathematics and the School of Computer Science and Informatics to store all module documentation.

<u>Student Information Management System (SIMS)</u>

The Student Information Management System is a system which is used by Cardiff University to manage student data at a University level. The School of Computer Science and Informatics and the School of Mathematics update and upload data to the Student Information Management System when required from central University.

Within the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*', the Student Information Management System is the system in which the approved module changes are uploaded to.

5.3.2.3 The Main Components and Features

The main components and features of the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*' are as follows:

Planning and Preparation:

- Annual Module Review Execution Plan is developed to provide guidance and direction for managing the annual module review process between both Schools.
- No strategic alignment with either Schools' external objectives from the annual module review process (i.e. the process has one purpose and will not take into account external factors formally as part of the process)

Collection and Documentation:

- Lecturers are completely responsible for inputting and updating the relevant module documentation with their proposed module changes
- No checks and evaluations for missing information or potential proposed Major Changes as part of the Collection and Documentation phase

Consultation and Review:

- A joint Board of Studies takes place between the School of Computer Science and Informatics and the School of Mathematics.
- Formal evaluation and review of proposed module changes to check potentially proposed Major Changes, as well as the involvement of the College Quality Officer if needed

Data Inputting:

- Office and Administration Team is responsible for uploading and inputting all approved module changes and enhancements into SIMS.

5.3.2.4 Workflow Model and Detailed Description

The full workflow diagram for the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*' can be found under Appendix F.
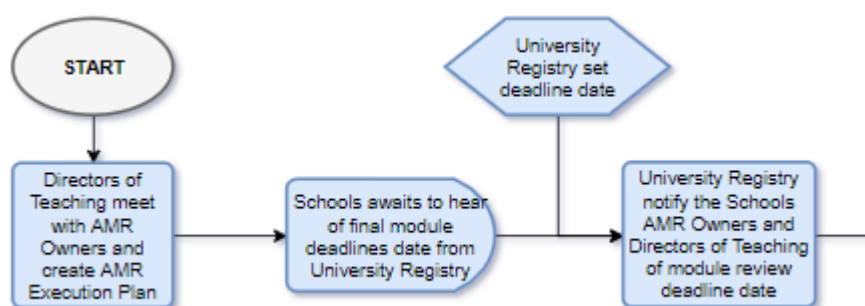
Figure 39 - Speediness & Exped. Integrated Model Part 1

The '*Speediness and Expedition Oriented Integrated Annual Module Review Process*' begins in December of the academic year. Before the Christmas break, the Mathematics' Director of Teaching, the Computer Science's Director of Teaching, the Computer Science's AMR Owner and the Mathematics' AMR Owner meet to discuss the annual module review process and

create an AMR Execution Plan to help direct and manage the annual module review process for after the Christmas break. After this discussion and the creation of the AMR Execution Plan, the School of Computer Science and Informatics and the School of Mathematics wait for a notification from the University Registry, confirming the final deadline date, in which all proposed module changes and enhancements must be approved and uploaded into SIMS.

In January, the University Registry decide a deadline for all Schools within Cardiff University to submit and upload their approved module changes and enhancements into SIMS. Once, the University Registry has decided on a date, the University Registry will notify the School of Computer Science and Informatics and the School of Mathematics of the final deadline date, specifically the Computer Science's AMR Owner, the Mathematics' AMR Owner, the Computer Science's Director of Teaching and the Mathematics' Director of Teaching.
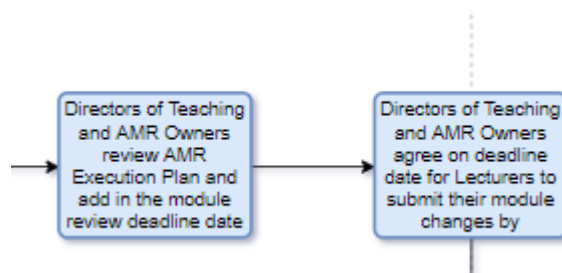
Figure 40 - Speediness & Exped. Integrated Model Part 2

Upon the Computer Science's Director of Teaching, the Computer Science's AMR Owner, the Mathematics' Director of Teaching and the Mathematics' AMR Owner receiving the deadline date from the University Registry. The Directors of Teaching and AMR Owners meet to review the AMR Execution Plan created before Christmas and edit where required to ensure it takes into account the deadline date received from the University Registry. This ensures that the AMR Execution Plan, which is used for directing the annual module review process, is accurate and suitable.

During the same discussion, the Directors of Teaching and the AMR Owners will discuss and identify a deadline date in which all Lecturers must input and update their relevant module documentation with their proposed module changes and enhancements. Again, this deadline date will be a product of the AMR Execution Plan.

Figures 39 and 40 concludes the Planning and Preparation phase of the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*' which can take a total of 3 weeks to conclude. Note to reader, section 5.3.2.5 explains in greater detail the expected duration for the entire process.
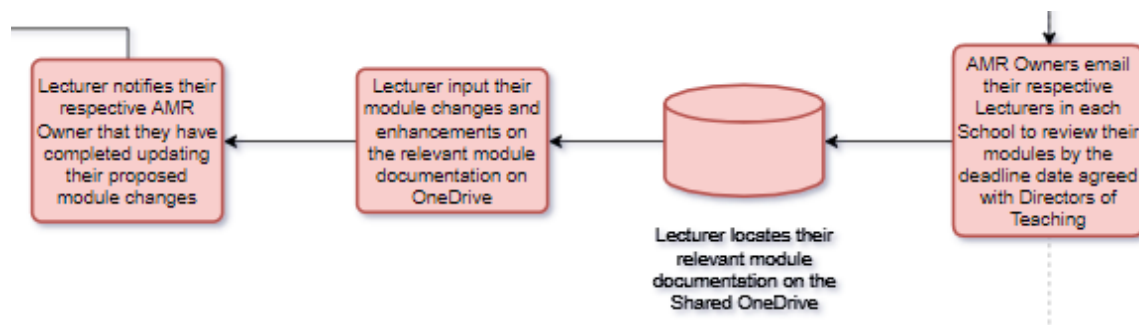
Figure 41 - Speediness & Exped. Integrated Model Part 3

After a deadline date for Lecturers to submit their proposed module changes and enhancements, the Computer Science's AMR Owner and the Mathematics' AMR Owner will reach out to their respective Lecturers within each School, instructing them to submit and update the relevant module documentation with their proposed module changes and enhancements by the deadline date agreed by the AMR Owners and the Directors of Teaching.

Subsequently, the Lecturers within the School of Computer Science and Informatics and the School of Mathematics, go onto the shared Microsoft OneDrive, locate the relevant module documentation which corresponds with the modules they teach.

Justification: The author has decided to use Microsoft OneDrive as a technology within this process because of the advantages outlined in section 5.1.3. The author has decided for Lecturers to have full responsibility of inputting module changes as part of the process because of the advantages outlined in section 5.1.5.

On the Lecturer locating the relevant module documentation, the Lecturer updates that module documentation by inputting their proposed module changes and enhancements. Consequently, from the Lecturer concluding the input of their proposed module changes and enhancements, and ultimately, updating the relevant module documentation. The Lecturer notifies their respective AMR Owner of completing the task requested by their respective AMR Owner (i.e. Lecturer which belongs to the School of Computer Science and Informatics, communicates with the Computer Science's AMR Owner).
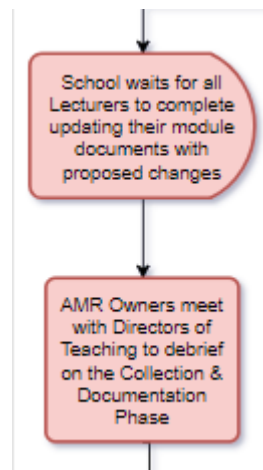
Figure 42 - Speediness & Exped. Integrated Model Part 4

As a result of the AMR Owner receiving a notification of the Lecturer completing the update of module documentation and proposing module changes, the AMR Owner acknowledges the respective Lecturer has completed the task they were required to do as part of the process.

The School of Computer Science and Informatics and the School of Mathematics then wait for the deadline to pass in which all Lecturers must submit their proposed module changes and update their relevant module documentation on Microsoft OneDrive. All Lecturers are expected to complete these changes by the deadline stated, if they do not, extensions will have to be implemented which leads to further delays throughout the entire process.

Once the deadline has passed, and all Lecturers have completed updating their relevant module documentation, the Computer Science's AMR Owner, the Computer Science's Director of Teaching, the Mathematics' AMR Owner and the Mathematics' Director of Teaching then meet to debrief as the Collection and Documentation phase concludes. This meeting allows the leadership team of the process to synchronise and ensure the AMR Owners and Directors of Teaching are on the same page, in terms of understanding the status and progress of the annual module review process between both schools.

Figures 41 and 42 concludes the Collection and Documentation phase of the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*' which can take a total of 3 weeks to conclude. Note to reader, section 5.3.2.5 explains in greater detail the expected duration for the entire process.
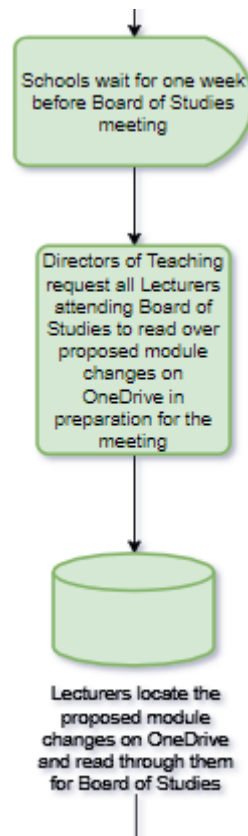
Figure 43 - Speediness & Exped. Integrated Model Part 5

The Consultation and Review phase now commences as part of the annual module review process. The main component of the Consultation and Review phase is a joint Board of Studies between the School of Computer Science and Informatics and the School of Mathematics. The date of the Board of Studies is set by the Computer Science's Director of Teaching and the Mathematics' Director of Teaching as part of the Planning and Preparation phase at the start of the process. The author is proposing this joint Board of Studies on the basis that Cardiff University would approve a joint Board of Studies between the School of Computer Science and Informatics and the School of Mathematics, instead of having to have separate ones. Please note that as a part of the joint Board of Studies, all members of the Board of Studies are expected to get involved and provide valuable input if a particular change in discussion is not from their specific school.

A week before the joint Board of Studies meeting is planned to commence, both Directors of Teaching within each School reach out to their respective Lecturers, requesting that they access the Microsoft OneDrive, and read over the proposed module changes and enhancements which are set to be discussed and reviewed by the Board of Studies.

In consequence to the Lecturer receiving a notification from their respective Director of Teaching, the Lecturer accesses the Microsoft OneDrive and reads through the proposed module changes and enhancements in order to prepare for the joint Board of Studies meeting in a week's time.
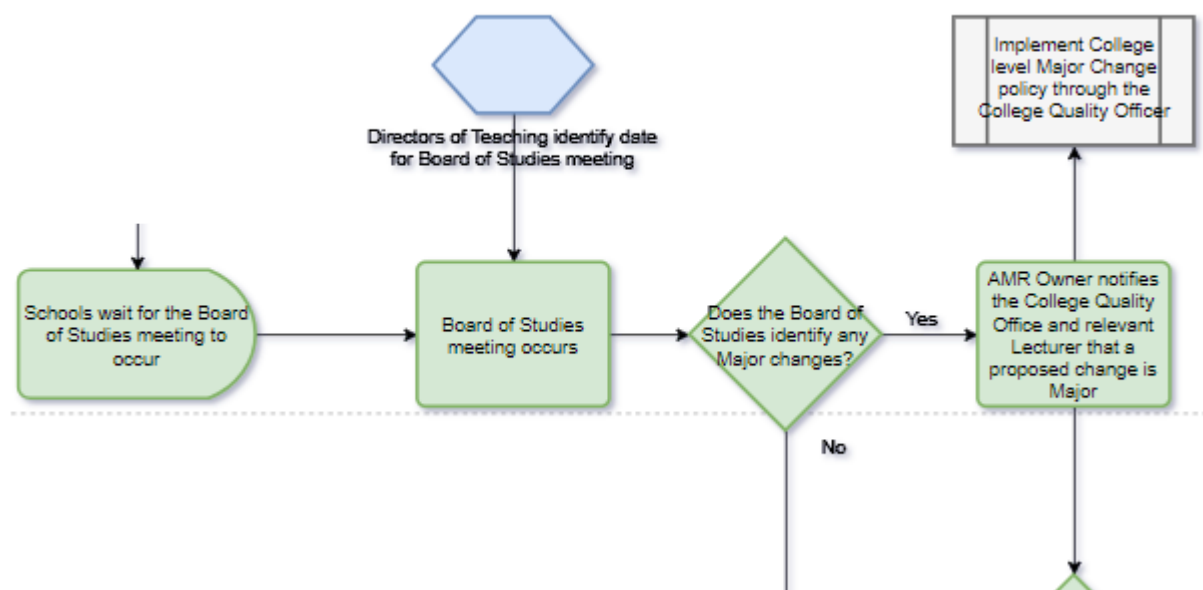
Figure 44 - Speediness & Exped. Integrated Model Part 6

The School of Computer Science and Informatics and the School of Mathematics will then wait for the joint Board of Studies meeting to occur. When the date and time of the joint Board of Studies meeting arrives, the meeting will commence, and the first order of business is for the Board of Studies to check that none of the proposed module changes or enhancements are in fact major instead of Minor.

In the event that the Board of Studies believes that they have identified a proposed major change, the respective AMR Owner (i.e. Computer Science module, then Computer Science's AMR Owner responsibility) will contact the College Quality Officer and the relevant Lecturer, stating that they believe the Board of Studies has identified a major change, and as a result the college level Major Change policy process needs to be implemented by the College Quality Officer separate to the annual module review process.
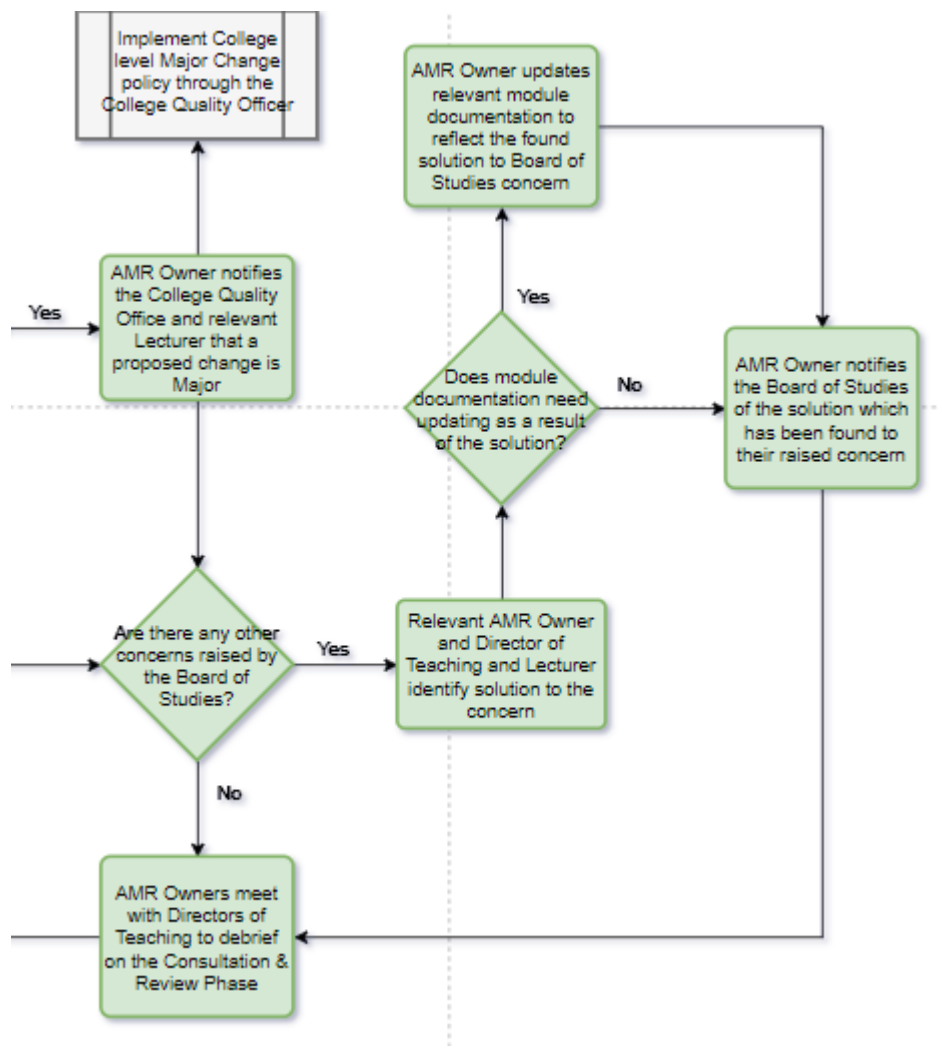
Figure 45 - Speediness & Exped. Integrated Model Part 7

If the Board of Studies did not identify a proposed major change, or the respective AMR Owner has recorded the identified major change to notify the College Quality Officer after the Board of Studies meeting, the Board of Studies will then check to see if there are any other concerns in regard to the proposed module changes within both Schools.

If there are any other concerns raised, the relevant AMR Owner, Director of Teaching and Lecturer will identify a solution to their concern. The AMR Owner will then decide if the identified solution requires an update to module documentation, to ensure that the module documentation reflects accurately the proposed module changes. If the identified solution does require an update to module documentation, then the AMR Owner will act accordingly, and then notify the Board of Studies of the solution that was identified. However, in the event that the identified solution did not require the module documentation being updated, the AMR Owner would simply notify the Board of Studies as soon as a solution was found.

If no other concerns were found by the Board of Studies, the meeting would conclude.

Following on from the Board of Studies, the Computer Science's AMR Owner, the Mathematics' AMR Owner, the Computer Science's Director of Teaching and the Mathematics' Director of Teaching meet to debrief as the Consultation and Review phase concludes. This meeting allows the leadership team of the process to synchronise and ensure the AMR Owners and Directors of Teaching are on the same page, in terms of understanding the status and progress of the annual module review process between both schools.

Figures 43, 44 and 45 concludes the Consultation and Review phase of the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*' which can take a total of 2 weeks to conclude. Note to reader, section 5.3.2.5 explains in greater detail the expected duration for the entire process.
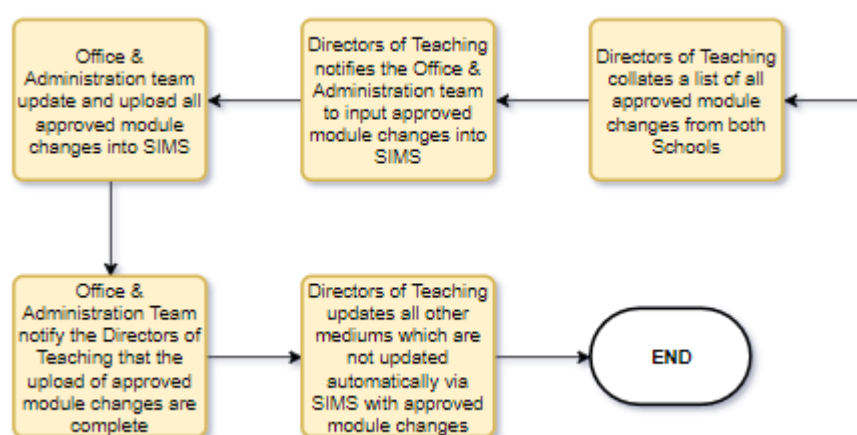
Figure 46 - Speediness & Exped. Integrated Model Part 8

Once the debrief meeting concludes between the leadership team of the annual module review process, the Computer Science's Director of Teaching and the Mathematics' Director of Teaching work together to collate a list of all Board of Studies approved module changes from both Schools.

The Mathematics' Director of Teaching or the Computer Science's Director of Teaching notifies the Office and Administration Team to complete the input and upload of the Board of Studies approved module changes and enhancements into SIMS.

Justification: The author has decided to use the Office and Administration Team for uploading the Board of Studies approved module changes because of the advantages outlined in section 5.1.8.

After the Office and Administration Team succeed in uploading and inputting the approved module changes into SIMS. The Office and Administration Team notify the Computer Science's Director of Teaching and the Mathematics' Director of Teaching that the input and upload of approved module changes has been completed.

Upon the Computer Science's Director of Teaching and the Mathematics' Director of Teaching receiving notification from the Office and Administration Team, that the input and upload of approved module changes into SIMS has concluded. The Computer Science's Director of Teaching updates all other mediums and platforms which contain module information that does not pull information automatically from SIMS, for Computer Science modules, with the updated approved module changes where appropriate. As well as the Mathematics' Director of Teaching doing the same but for Mathematics modules where appropriate.

Figure 46 concludes the Data Inputting phase of the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*' which can take a total of 3 weeks to conclude. Note to reader, section 5.3.2.5 explains in greater detail the expected duration for the entire process.

This concludes the workflow for the proposed '*Speediness and Expedition Oriented Integrated Annual Module Review Process*' model.

5.3.2.5 Process Execution Duration
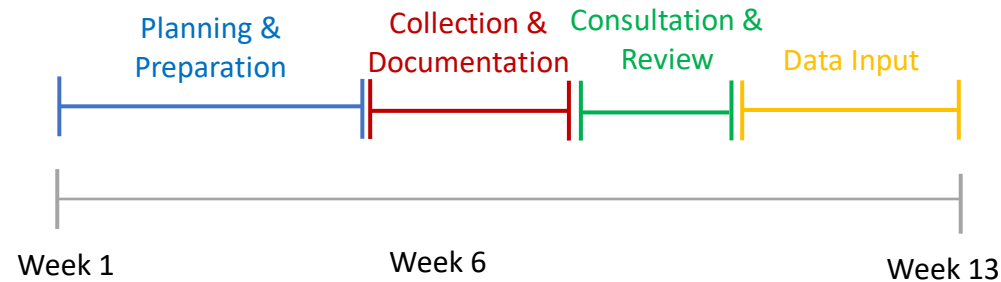
Planning and Preparation:
- Expected Duration – *5 weeks* (includes Christmas and New Year break)
- Expected Months Start to End – *December to January*
- Expected Week Start to End - *Week 1 to Week 5*

Collection and Documentation:
- Expected Duration – *3 weeks*
- Expected Months Start to End – *January to February*
- Expected Week Start to End - *Week 5 to Week 8*

Consultation and Review:
- Expected Duration – *2 weeks*
- Expected Months Start to End – *February to February*
- Expected Week Start to End – *Week 8 to Week 10*

Data Input:
- Expected Duration – *3 weeks*
- Expected Months Start to End – *February to March*
- Expected Week Start to End – *Week 10 to Week 13*

Total Expected Duration = 13 weeks (approx. 3 months)

5.3.2.6 Author Justifications

Below the author explicitly outlines the references and justifications for the main configurations and parts of the process:

- The '*Governance and Diligence Annual Module Review Process*' begins in December and does not align with strategic initiatives and objectives set by the School of Computer Science and Informatics and the School of Mathematics, because of the advantages outlined in section 5.1.1.
- The Director of Teaching involvement within the process is greater because of the advantage outlined in section 5.1.2.
- The technology used for storing, collecting and hosting module documentation is Microsoft OneDrive because of the advantages outlined in 5.1.3.
- The process does NOT collect supplement data and additional information along with the proposed module changes from the Lecturers because of the advantages outlined in section 5.1.4.
- Lecturers are completely responsible for inputting their proposed module changes no matter how simple or quick they may be, as a result of the advantages outlined in section 5.1.5.
- A formal Major change check against proposed module changes does NOT occur before the Board of Studies, because of the advantages outlined in the section 5.1.6.
- Student consultation is a significant and large part of the Consultation and Review phase in the form of using Learning Central and Student Staff Panels, because of the advantages outlined in section 5.1.7.
- There is no student consultation as part of the process because it is not a necessary component and would add a considerable amount of time to the process within the Consultation and Review phase.
- The Office and Administration Team is responsible for uploading and updating the approved module changes into the SIMS, because of the advantages outlined in section 5.1.8.
- The process is managed and lead at the top by the Directors of Teaching and AMR Owners because of the reasons and points argued in section 5.2.3.
- Within the process there is a joint Board of Studies as part of the Board of Studies because of reasons and points argued in section 5.2.4.

5.3.2.7 Business Rules

To correspond alongside the workflow model in the form of a flowchart and a detailed description. See Appendix L for the '*Speediness and Expedition Oriented Integrated Annual Module Review Process*' business rules. These business rules follow the same format as outlined in section 4.3.

There is a total of 69 business rules for the Speediness and Expedition Oriented Integrated Annual Module Review Process.

Note to the reader, when examining the business rules in Appendix L, a range of colours are used as a form of highlighting to distinguish certain rules. The colours have the following meaning:

- **Planning and Preparation** – *Blue*
- **Collection and Documentation** – *Red*
- **Consultation and Review** – *Green*
- **Data Inputting** – *Yellow*

The colour of the highlighted business rule refers to the phase in which that business rule belongs to.

5.3.2.8 Conclusion and Executive Summary

The proposed Speediness and Expedition Oriented integrated annual module review process, is a model which focuses and prioritises rapidness and streamlining of the annual module review process to ensure that the School of Computer Science and Informatics and the School of Mathematics can complete their duties of module review and enhancement within the shortest duration possible.

As a result of these priorities, the duration of the process is expected to take 13 weeks, starting in December and ending in March / early April. However, although the duration has been significantly reduced, other areas have been compromised such as: student consultation, individual Board of Studies, checks and evaluations built into the phases before the formal joint Board of Studies, as well as a possible feedback and improvement phase at the end for reflection and refinement of the process.

There are total of four phases within the process, which include: Planning and Preparation, Collection and Documentation, Consultation and Review and Data Inputting.

The Directors of Teaching and AMR Owners from each school are expected to work collaboratively to manage the process, which provides equal and equitable representation within the leadership team of the process. The Directors of Teaching are responsible for strategizing and guiding the process from an overseeing perspective, whereas the AMR Owners are expected to implement and execute the process within each school.

The Speediness and Expedition Oriented integrated annual module review process is a model extremely focused and concentrated on the side of ensuring rapidness and streamlining of the process.

5.4 Comparison between the integrated models and striking a balance

In section 5.2 and 5.3 of this project report, the author has attempted to describe and expound two alternative integrated models which could be adopted by the School of Computer Science and Informatics and the School of Mathematics when they move to the new building.

However, realistically, the author is aware that the two extremes and polar opposite models, in terms of priorities and focuses have been proposed, and as a result neither model would most likely be adopted and implemented by either school in the form in which they are presented in this report, because the author expects that the management teams would want a balance between Speediness and Expedition alongside Governance and Diligence.

On the other hand, the author believes that presenting two polar opposites and extremes, provides both Schools with the maximum amount of options and choices, allowing them to see a vast array of components within the process, which could be added or removed to help create the likely balance of prioritises and focuses the Schools are looking for.

The table below provides a direct comparison between the two proposed integrated models.

	Speediness & Expedition Model	Governance & Diligence model
Duration	13 weeks	26 to 30 weeks
Board of Studies	Joint between both Schools	Individual for both Schools
DoT Involvement	Greater involvement in execution	Greater involvement in planning
Checks before BoS	No	Yes
SSP Involvement	No	Yes
Wider student consult	No	Yes
New roles?	No	Yes
Strategic alignment	No	Yes
Data Inputting	Office & Admin. Team	Office & Admin. Team
Feedback & Improvement	No	Yes
Major Change policy	Yes	Yes
Business Rules	69	166
Number of Agents	9	15
Number of Systems	2	3

- **Duration** – How long does it take for the process to execute and conclude
- **Board of Studies** – do the Board of Studies take place jointly between both Schools or individually within each school?

- **DoT Involvement** – do the Directors of Teaching have a greater amount of involvement in executing the process? Or do they have lesser involvement in execution and greater involvement in planning and strategizing of the process?
- **Check before BoS** – are there any checks and evaluations before the Consultation and Review phase and the Board of Studies?
- **SSP Involvement** – are Student Staff Panels part of the process?
- **Wider student consult** – are the wider student bodies consulted for informal feedback on proposed module changes?
- **New roles?** – are any new roles / agents proposed as part of the process?
- **Strategic alignment** – does the annual module review process take into account the necessary steps for aligning the annual module review process with the strategic objectives of the Schools or identify potential opportunities in how the annual module review process can support other processes too (such as collecting additional data with proposed module changes)?
- **Data Inputting** – who is responsible for inputting and uploading the approved module changes into SIMS
- **Feedback and Improvement** – are there a set of steps and a phase as part of the process which focuses on collecting feedback, and identifying how that feedback can be applied to improve the process for the following academic year?
- **Major change policy** – does the annual module review process take into account if a potential major change is proposed, the steps required and the agent needing to be involved (College Quality Officer)?
- **Business rules** – number of business rules to execute the annual module review process
- **Agents** – number of agents involved within the annual module review process
- **Systems** – number of systems involved within the annual module review process

The Speediness and Expedition integrated model, and the Governance and Diligence integrated model both have their own advantages and disadvantages, strengths and compromises depending on the priority and focus at hand. However, through the workflow models and set of business rules for each individual model, the author believes this provides the reader with the tools, knowledge and range of options for the foundations of an integrated process to be implemented. The vast array of options and the two polar opposite extremes, provides a landscape which indicates the different components which can be added and removed from the process (e.g. student staff panel) in order to tailor an integrated process which is accepted and established by both Schools.

6. Future Work

As part of this project, the author was given 12 weeks to explore how the annual module review and enhancements obligations that are expected from the School of Computer Science and Informatics and the School of Informatics could save resources, increase efficiencies and effectiveness of module review and enhancement by integrating the individual processes, so a single process is conducted between the schools.

Therefore, the scope of the overall task is significantly large, and as a result the author did not have enough time to completely meet the scope of delivering a fault-proof, tested and implemented integrated module review process, but believes has created the foundation for further and future work to meet the larger scope.

Below outlines activities and work that the author would have completed if given more time:

6.1   Dynamic Modelling

To date, all the models presented within this project report are static and drilled down representations between all the agents and the systems. However, the models have not been built through dynamic modelling software to test the conditions within the process via automation.

Therefore, the next step the author believes should be undertaken, is transferring these models from a static state into a dynamic state using dynamic modelling software, to robustly test conditions and workflows that have been described in the processes.

6.2   Building a detailed balanced approach

Another activity which needs to be completed to progress this project towards a deployable integrated process, is presenting the two proposed integrated models (sections 5.2 and 5.4) in this report to the School of Mathematics and the School of Computer Science and Informatics' management team, to gain feedback and opinions on the two proposed models, and start to understand how a middle ground can be found between the two extremes proposed in this project report. That way a final agreed integrated model can begin to be built which could be deployable when the two schools move into the new buildings.

6.3   Reaching out to potential agents

Due to time constraints the number of stakeholders involved in this project from both schools was low, in order to save time and reduce the number of opinions on how an integrated process should take form, as it would take longer for the author to build a model based on a larger set of opinions and feedback.

Therefore, after speaking with the management teams within the School of Computer Science and Informatics and the School of Mathematics (section 6.3), the author believes it would be a good idea to reach out to individuals within both Schools who would act as an agent within the process if it was implemented, such as the AMR Owner, a Lecturer, a Student etc. to get feedback on how they believe an integrated process should take form, and their opinion on what they believe their responsibilities should be within the process.

6.4 Training

Once an agreed and consensual integrated model is built based on the work in this project report, and the future work outlined in sections 6.2, 6.3 and 6.4, the School of Computer Science and Informatics and the School of Mathematics the need to focus on training packages and walkthroughs of the new integrated annual module review process. This will ensure that all agents within the process and other members within each school understand the changes from the old unintegrated processes to the new single integrated process and the benefits it will bring. The author believes that multiple training sessions over a significant time period will be required to complete the full explicit transfer of knowledge, while having extra support on the first execution of the process to help guide the agents to understand their responsibilities and tasks.

The author believes that the future work outlined in sections 6.1, 6.2, 6.3 and 6.4 at the time of writing this report, would help in making the prospect of an integrated annual module review process a reality in the future, when both Schools move to share the same building.

7. Conclusions

Through the successful completion of this project, the author has fruitfully completed an early exploration of how an integrated annual module review and enhancement process could function and operate between the School of Computer Science and Informatics and the School of Mathematics.

It began with the research and understanding of how the School of Computer Science and Informatics currently executes and fulfils its module review and enhancement, formulating that into a workflow model and a set of business rules.

Following with the research and understanding of how the School of Mathematics currently executes and fulfils its module review and enhancement, formulating that into a workflow model and a set of business rules.

Then comparing and analysing the differences between the two current ways of working, the pros and cons of each approach, and making clear the areas for thought when preparing and designing an integrated process.

Finally, the creation and development of two alternative integrated annual module review process models, which have opposite priorities to show the entire landscape and range of options and components available, when attempting to implement an integrated annual module review process.

As a result of the extensive and fulfilling project experience, the author has delivered the following:
1. Computer Science's annual module review process workflow model – Section 4.1 / 4.2
2. Computer Science's annual module review process business rules – Section 4.3
3. Mathematics' annual module review process workflow model – Section 4.4 / 4.5
4. Mathematics' annual module review process business rules – Section 4.6
5. Analysis of variation and difference between the two current systems – Section 5.1/ 5.2
6. Governance and Diligence oriented integrated annual module review process workflow model – Section 5.3.1 / 5.3.1.4
7. Governance and Diligence oriented integrated annual module review process business rules – Section 5.3.1 / 5.3.1.7
8. Speediness and Expedition oriented integrated annual module review process workflow model – Section 5.3.2 / 5.3.2.4
9. Speediness and Expedition oriented integrated annual module review process business rules – Section 5.3.2 / 5.3.2.7
10. Comparison between the two-proposed integrated annual module review process models – Section 5.4

8. Reflection on Learning

Through completing this project, I have faced several challenges which needed to be overcome by utilising my strengths and developing new skills, as well as identifying areas that require improvement in the future, and the general enjoyments of completing this project and how the project will benefit me in the future.

8.1   Greatest Challenges

Below identify the greatest challenges I faced when completing this project.

8.1.1   No documentation on current processes

The first challenge I faced when tackling the project is the lack of documentation on the current methods used to execute the annual module review and enhancement obligations, within the School of Computer Science and Informatics and the School of Mathematics currently.

This meant I had no starting point or point of reference for researching the current way in which annual module review is executed within each school from a formal documentation perspective

However, I overcame this challenge by conducting three interviews with the AMR Owner for the School of Computer Science and Informatics, and three interviews with the AMR Owner for the School of Mathematics, as well as maintaining continuous communication with both of them throughout the process, in order to ensure I could access the information I needed to build the documentation myself of how both schools currently meet their module review and enhancement obligations.

8.1.2   Industrial Action

Towards the start of the project, there was at least four weeks of industrial strike action by lecturers and academic staff at Cardiff University. This caused a particular issue when I was attempting to contact and reach out to the AMR Owner of the School of Mathematics.

This meant that I had a three-week delay in beginning the research and information collection of how the School of Mathematics currently conduct their annual module review and enhancement obligations.

However, I overcame this challenge by working with my supervisor, Professor Alun Preece, and Head of School, Professor Stuart Allen to plan for contingencies in the event that I would be unable to get hold of the Mathematics' AMR Owner, and as a result need to pivot my project. Thankfully, I was able to get in contact with the Mathematics' AMR Owner by reaching out a few weeks in advance so that the Mathematics' AMR Owner was expecting me, as well as sending follow-up emails during the industrial action. The Mathematics' AMR Owner was

very supportive and reached out apologising for the delay in initial response. The weeks lost due to the industrial action I made up for by working in the Easter holiday break.

8.1.3   Deviation from the initial project plan

Before the project commenced, I developed an initial project plan to act as guide and provide direction for conducting the large range of activities for this project to be a success. Unfortunately, due to delays - some within my control and some out of my control – the initial project plan became unsuitable and largely useless.

This meant that I no longer had an accurate guide and sense of direction for completing the project, which at times made it difficult to remember the larger scope of the project when conducting smaller tasks.

However, I overcame this challenge by creating informal weekly plans in my productivity planner and ticking off the tasks as they were completed to provide direction and guidance, as well as continuously reading through my report to ensure it linked up pleasantly and I was always taking into account the larger scope of the project.

8.1.4   Formulating business rules

This project was the first time in which I had ever created business rules and put them into practice, despite previously studying the theory of them as part of Knowledge Management at Cardiff University, taught by Professor Alun Preece.

This meant that I struggled at first to understand how to put them into practice and apply them in the context of my project.

However, I overcame this challenge by working with my supervisor, Professor Alun Preece, to receive guidance and advice on the level of detail and form of presentation. I also read an IBM blog which went into detail how to best present business rules, as found in reference [16].

8.2   New and Developed Skills

In order to successfully complete and execute this project I had to use a range of skills that I had previously learned, which also developed further as a result of being used as part of the project and develop new skills. Below outline the skills that I developed and new skills I learned while completing this project.

1. **Determination and Persistence** – this project had a relatively large scope with a range of different factors and as a result at times became difficult to progress. However, the skill of determination and persistence helped me overcome this.

2. **Organisational and Project Management** – this was a three-month project with a range of milestones, deliverables and sub-tasks, good organisational habits such as using my productivity planner, and previous project management experience as part of industry helped me tackle this relatively large project.

3. **Complex Problem Solving** – this project contained tasks and challenges I had no experience of, and as a result required me to apply complex problem-solving skills to provide greater clarity and answers to these new tasks and challenges

4. **Interviewing and Information Collection** – at this start of this project I was required to interview each AMR Owner three times, to collect to extract all the necessary information. As a result, I learned a new skill of interviewing and learned the importance of asking the right questions to get the information you require.

5. **Process Engineering and Integration** – previously I had never had any exposure to process engineering and integration, and as a result I have learned about the complexities, considerations and factors involved when conducting process engineering and exploring process integration

6. **Large and Formal Academic Report Writing** – this project report is the largest academic paper I have wrote in my career to date and arguably the most important. As a result, I have learned a considerable amount when it comes to structure, professional writing and the art of articulating your statements to make it easy for the reader.

8.3   Areas for self-improvement

As well as developing old skills and learning new ones when completing this project, I also found areas which I still need to improve upon in the future.

8.3.1   Remaining in Scope and Understanding Responsibility

Due to the large scope of the project, and its potential in terms of providing guidance of how two academic schools and sets of faculties could integrate a business operation to save resources, improve effectiveness and increase efficiency. I think I got carried away at times with the amount I thought I could do in the 12 weeks I had. Luckily, Professor Alun Preece helped provide guidance and keep me on track in terms of delivering as much as I could which would be useful but realistic within 12 weeks.

In the future I believe I need to take this more into consideration and understand what I can be responsible for within a large scope project within a specific and limited timeframe.

8.3.2   Sticking to and following a plan

As mentioned in section 8.1.3, my initial project plan became largely useless due to factors within and without my control, and despite making use of a productivity planner to remain organised, I think having a formal and accurate project plan would have helped to continuously provide high-level guidance when I required it.

In the future I would like to make sure that if I ever deviate from a formal project plan, I update and amend the project plan to recognise delays or incidents, so the plan remains accurate and useful, and potentially build in contingencies for delays when first creating the project plan.

8.4   How will this project personally help in the future?

In December 2017, I was offered a position at Microsoft as Technical Solutions Professional which will involve working with businesses to revolutionise their processes and how they work with the help of technology.

The experience of completing this project, in terms of building models for two current processes, and engineering new processes based on the analysis of current processes, has already provided me the experience of understanding large amounts of information, the bigger picture and how certain factors, can help tailor a process to suit the needs of a client.

Appendix A – School of Computer Science & Informatics Annual Module Review Process

Start

- AMR owner begins planning for the management of the process
- University Registry set deadline date
- University Registry notify AMR process owners of deadline date for module review changes
- AMR owner notifies Schools' academic staff to begin reviewing their modules

Academic staff locate their relevant module documentation on School's shared OneDrive

- Academic staff input changes on their relevant module documentation on OneDrive
- Academic staff notify AMR owner that they have completed their module changes
- **Is any information input missing from academic staff?** — Yes → AMR owner notifies academic staff to include necessary information
- No
- **Are any of the changes classified as Major?** — No → AMR owner instructs all academic staff & lecturers to double-check the accuracy of the changes & details they have submitted on their OneDrive Documents
- Yes
- AMR owner notifies the CQO and then the academic staff that their change is classed as Major
- Implement central University Major Change Policy at College level through CQO

Academic staff double check the details of the information and details they submitted on the OneDrive

- **Are there any errors or lack of accuracy from the data originally inputted?** — Yes → Academic staff and lecturer adjust the document so it reflects correctly the details needed and changes wanted. → Academic staff notify the AMR owner of the error and the fix which has been applied
- No

AMR owner sets up LC page where all planned changes can be seen by all students

AMR owner sends an email to all cohorts within the School to notify them where they can find the changes and a deadline to provide feedback

- **Are concerns raised by students?** — No
- Yes
- **Does the Director of Teaching & AMR owner believe concerns require relevant lecturer input?** — Yes → AMR owner and DoT communicate with lecturer to retrieve solution with potential student input → **Have the concerns been addressed?** (No / Yes)
- No → Director of Teaching & AMR owner address concerns and find solution → **Have the concerns been addressed?** — No / Yes

Board of Studies meeting takes place

DoT sets date for Board of Studies meeting

Is the Board of Studies satisfied with the extent of changes? — No → Adjustments are made by relevant members of the Board of Studies to the planned changes — Yes → AMR owner collates for each module, a list of all changes based on module code

- AMR owner transfers this to the Office and Admin team the changes and notifies them to begin inputting it into SIMS
- Office & Admins team input module changes into SIMS
- Office & Admin team notify AMR owner that changes have been inputted and submitted
- AMR owner updates all other platforms/mediums which contained old module / programme details with the new ones

End

- **Planning & Preparation** – *Blue*
- **Collection/Documentation** – *Red*
- **Consultation & Review** – *Green*
- **Data Inputting** - *Yellow*

Appendix B – School of Mathematics
Annual Module Review Process

Start

AMR owner sends an email to academic staff to notify them of deadline to send any academic changes for their respective modules

AMR owner discusses with School Board and DoT to understand if there are any top-down drivers for module changes

Is there top-down drivers for multiple module changes?

Yes → Identify a plan of action for managing these top-down module changes within the AMR

Identify relevant academics and lecturers which will be affected by the top-down drivers for module changes

No → School is notified by University Registry of deadline date for module review changes

University Registry set deadline date

School is notified University Registry of deadline date for module review changes

University Registry set deadline date

Academic staff and lecturer emails the AMR owner with proposed change to their module

AMR owner notifies the academic staff which will be affected by the top-down driver changes as it may affect their planned changes they already had in mind. As well as a deadline for letting the AMR owner know of any changes they planned to make to their respective module.

Is the change very small and quick to implement?

Yes → AMR owner makes those changes on behalf of the academic lecturer to their module document

AMR owner updates personal Word Document which is tracking all changes being made

Once deadline has passed for changes to be submitted. AMR owner uploads all changes onto the S Drive.

No → AMR owner sends the module document to them. Requests lecturer to put on 'tracking changes' within the document

One week before the Board of Studies, the AMR owner notifies all staff to read through all changes set to be made to module programmes

Schools sets deadline for the Board of Studies meeting

Academic lecturer turns on 'tracking changes' within Word and complete the changes they want to make.

Academic staff locate changes on the S Drive and read through them in preparation for the Board of Studies

Academic lecturer sends Word Document with the changes to the AMR owner via email.

Is the AMR owner able to determine what changes have been made to the module?

Yes

No → Academic lecturer makes clear to the process owner the changes that have been made

Board of Studies meeting takes place

End

Is the Board of Studies satisfied with the extent of changes?

No → Adjustments are made by relevant members of the Board of Studies to the planned changes

Yes → AMR owner inputs all module changes into SIMS

- **Planning & Preparation** – *Blue*
- **Collection/Documentation** – *Red*
- **Consultation & Review** – *Green*
- **Data Inputting** - *Yellow*

Computer Science Annual Module Review Process

University Registry · AMR Owner · Lecturer* · Director of Teaching · Student* · Board of Studies · Office & Admin. Team · College Quality Officer · Microsoft OneDrive · Learning Central · SIMS · Other Mediums

Rule 02
Rule 12
Rule 14 Rule 14
Rule 11
Rule 34
Rule 35
Rule 05
Module X Documentation
Rule 36
Rule 07
Rule 15
Module X Documentation
Rule 16
Rule 38 Rule 38
Rule 17
Rule 18
Rule 08
Rule 19 Rule 19
Rule 20
Rule 40
Rule 43
Rule 21
Rule 23
Rule 24
Rule 48
Final Module X Changes
Rule 50 Rule 50
Rule 25
Rule 09
Rule 26
Rule 45
Rule 51
Rule 46/47 Rule 46/47
Rule 28
Rule 53/54
Rule 29/30
Rule 31
Rule 32
Rule 55
Rule 56
Rule 33

Appendix C – School of Computer Science & Informatics UML Sequence Diagram

- **Planning & Preparation** – *Blue*
- **Collection/Documentation** – *Red*
- **Consultation & Review** – *Green*
- **Data Inputting** - *Yellow*

Mathematics Annual Module Review Process

School Board	AMR Owner	Lecturer*	Director of Teaching	Board of Studies	University Registry	Shared S Drive	SIMS

Rule 09
Rule 09
Rule 01
Rule 05
Rule 10
Rule 10
Rule 02
Rule 06
Rule 12
Rule 08
Rule 04
Rule 16/17
Rule 29
Rule 19
Module X Documentation
Rule 20
Module X Documentation
Rule 20
Rule 32
Rule 22
Rule 33
Rule 24/25
Rule 26
Rule 34
Final Module X Changes
Rule 37
Rule 27

Appendix D – School of Mathematics UML Sequence Diagram

- **Planning & Preparation** – *Blue*
- **Collection/Documentation** – *Red*
- **Consultation & Review** – *Green*
- **Data Inputting** - *Yellow*

START

Collaboration leader and Directors of Teaching discuss strategic objectives of AMR process

Collaboration leader reaches out to the ComSci AMR Owner and Maths AMR Owner

Collaboration leader and the AMR Owners create an AMR Execution Plan

Are any specific modules affected by the strategic objectives?

University Registry set deadline date

No

Yes — AMR Owners identify their respective lecturers who will be affected by the strategic objectives

AMR Owners notify the identified lecturers that their modules and review will be affected by specific strategic objectives

Schools awaits to hear of final module deadlines date from University Registry

University Registry notify the Schools AMR Owner and Collaboration leader of module review deadline date

Collaboration leader and AMR Owners review AMR Execution Plan and add in the module review deadline date

Collaboration leader and AMR Owners agree on a deadline date for Lecturers to send module changes and enhancements by

AMR Owners email their respective Lecturers in each School to review their modules by the deadline date agreed with Collab. leader

Lecturer locates their relevant module documentation on the Shared OneDrive.

Lecturer input their module changes and enhancements on the relevant module documentation on OneDrive

Lecturer notifies their respective AMR Owner that they have completed updating their proposed module changes

Is any expected data missing from the module documentation?

Yes — Does the AMR Owner require a second opinion from the respective DoT?

Yes — AMR Owner reaches out to the respective DoT for guidance and opinion on the updated module documentation by the Lecturer

Does the DoT agree with the AMR Owner's assessment?

No — Does the DoT's assessment affect the AMR Owner's decision?

Yes / No

AMR Owners notify Student year groups of Learning Central page where they can check and email feedback if want to by a certain deadline date

Has feedback been emailed by Students?

Yes — AMR Owner documents the feedback / AMR Owner notifies relevant Direct of Teaching and Collab. Leader of documented feedback

No

Schools wait for Student feedback deadline date to pass

Collab. leader requests the AMR Owners to reach out to the student year groups telling them they can check planned changes to modules

Collab. leader uploads collated changes onto Learning Central page for both schools

Collab. leader setups Learning Central page

Collab. leader collates a list of all proposed module changes from both schools

No — Are any of the proposed module changes suspected as Major?

Yes — Consult with the respective Director of Teaching and Collab leader to get agreement on a possible identified major change

Is an agreement found that the proposed module change is Major rather than Minor?

No — Collab. leader instructs AMR Owners to request Lecturers to double check they are satisfied with their proposed changes on OneDrive

AMR Owners instruct their respective Lecturers to check they are happy with their proposed module changes

AMR Owners notify Collab leader that all module documents have been updated with proposed changes by Lecturer

School waits for all Lecturers to complete updating their module documents with proposed changes

Lecturer double checks they are satisfied with the proposed module changes and data they have updated in module documentation on OneDrive

Yes — AMR Owner notifies the College Quality Office and relevant Lecturer that a proposed change is Major

Lecturer makes minor corrections to their proposed module changes

Is the Lecturer satisfied with their proposed module changes and updated data?

Yes — Schools wait until the deadline passes for Lecturer to double check they are satisfied with their proposed updates

No

Lecturer notifies their relevant AMR Owner of the minor correction they have made

Implement College level Major Change policy through the College Quality Officer

Colab leader & Maths DoT set Maths SSP date

Mathematics SSP meeting occurs

Schools wait for Mathematics SSP meeting date

Are any concerns or feedback which require immediate attention raised?

No

Maths AMR Owner, Director of Teaching and relevant lecturer locate solution to raised concern or feedback

Does module documentation need updating as a result of the solution?

Yes — AMR Owner notifies the SSP of the solution which has been found to their feedback or concern which required urgent attention

No — AMR Owner updates relevant module documentation to reflect the found solution to SSP concern or feedback

Colab leader & ComSci DoT set ComSci SSP date

Computer Science SSP meeting occurs

Schools waits for Computer Science SSP meeting date

AMR Owners provide progress update to Collab leader and the two Directors of Teaching

Are any concerns or feedback which require immediate attention raised?

No

ComSci AMR Owner, Director of Teaching and relevant lecturer locate solution to raised concern or feedback

Does module documentation need updating as a result of the solution?

Yes — AMR Owner notifies the SSP of the solution which has been found to their feedback or concern which required urgent attention

No — AMR Owner updates relevant module documentation to reflect the found solution to SSP concern or feedback

Colab leader & ComSci DoT set ComSci Board of Studies date

Computer Science Board of Studies meeting occurs

Schools wait for Computer Science Board of Studies meeting date

AMR Owners, Director of Teachings and Collab. leader have synch. meeting

Schools wait for Student feedback deadline date to pass

Board of Studies execute their requirements and responsibilities on the proposed module changes

Are any concerns raised by the Board of Studies when they review & discuss the proposed module changes?

No

ComSci AMR Owner, Director of Teaching and Lecturer identify solution to address the concern raised

Does module documentation need updating as a result of the solution?

Yes — AMR Owner updates relevant module documentation to reflect the found solution to Board of Studies concern

No — AMR Owner notifies the Board of Studies of the solution which has been found to their raised concern

Colab leader & Maths DoT set Maths Board of Studies date

Mathematics Board of Studies meeting occurs

Schools wait for Mathematics Board of Studies meeting date

Board of Studies execute their requirements and responsibilities on the proposed module changes

Are any concerns raised by the Board of Studies when they review & discuss the proposed module changes?

No

Maths AMR Owner, Director of Teaching and Lecturer identify solution to address the concern raised

Does module documentation need updating as a result of the solution?

Yes — AMR Owner updates relevant module documentation to reflect the found solution to Board of Studies concern

No — AMR Owner notifies the Board of Studies of the solution which has been found to their raised concern

Collab leader debriefs with AMR Owners and Directors of Teaching

Collab. leader collates a list of all approved module changes from both Schools

Collab. leader notifies the Office & Administration team to input approved module changes into SIMS

Office & Administration team update and upload all approved module changes into SIMS

Collab. leader updates all other mediums which are not updated automatically via SIMS with approved module changes

Office & Administration Team notify the Collab. leader that the upload of approved module changes are complete

Collab. leader requests Directors of Teaching to reach out to Lecturers for feedback on the process

Lecturers send feedback to the Directors of Teaching for how they think the process could improve

Collab. leader waits for deadline for Lecturers to provide feedback on AMR Process

Collab. leader meets with Directors of Teaching and AMR Owners to explore improving process based on ideas & feedback

Collab. leader updates module documentation with changes to the AMR process

END

Appendix E – Governance and Diligence Oriented Integrated Annual Module Review Process

- **Planning & Preparation** – *Blue*
- **Collection/Documentation** – *Red*
- **Consultation & Review** – *Green*
- **Data Inputting** – *Yellow*
- **Feedback & Improvement** - *Purple*

Appendix F – Speediness and Expedition Oriented Integrated Annual Module Review Process Model

- **Planning and Preparation** – *Blue*
- **Collection & Documentation** – *Red*
- **Consultation & Review** – *Green*
- **Data Inputting** - *Yellow*

START

Directors of Teaching meet with AMR Owners and create AMR Execution Plan

Schools awaits to hear of final module deadlines date from University Registry

University Registry set deadline date

University Registry notify the Schools AMR Owners and Directors of Teaching of module review deadline date

Directors of Teaching and AMR Owners review AMR Execution Plan and add in the module review deadline date

Directors of Teaching and AMR Owners agree on deadline date for Lecturers to submit their module changes by
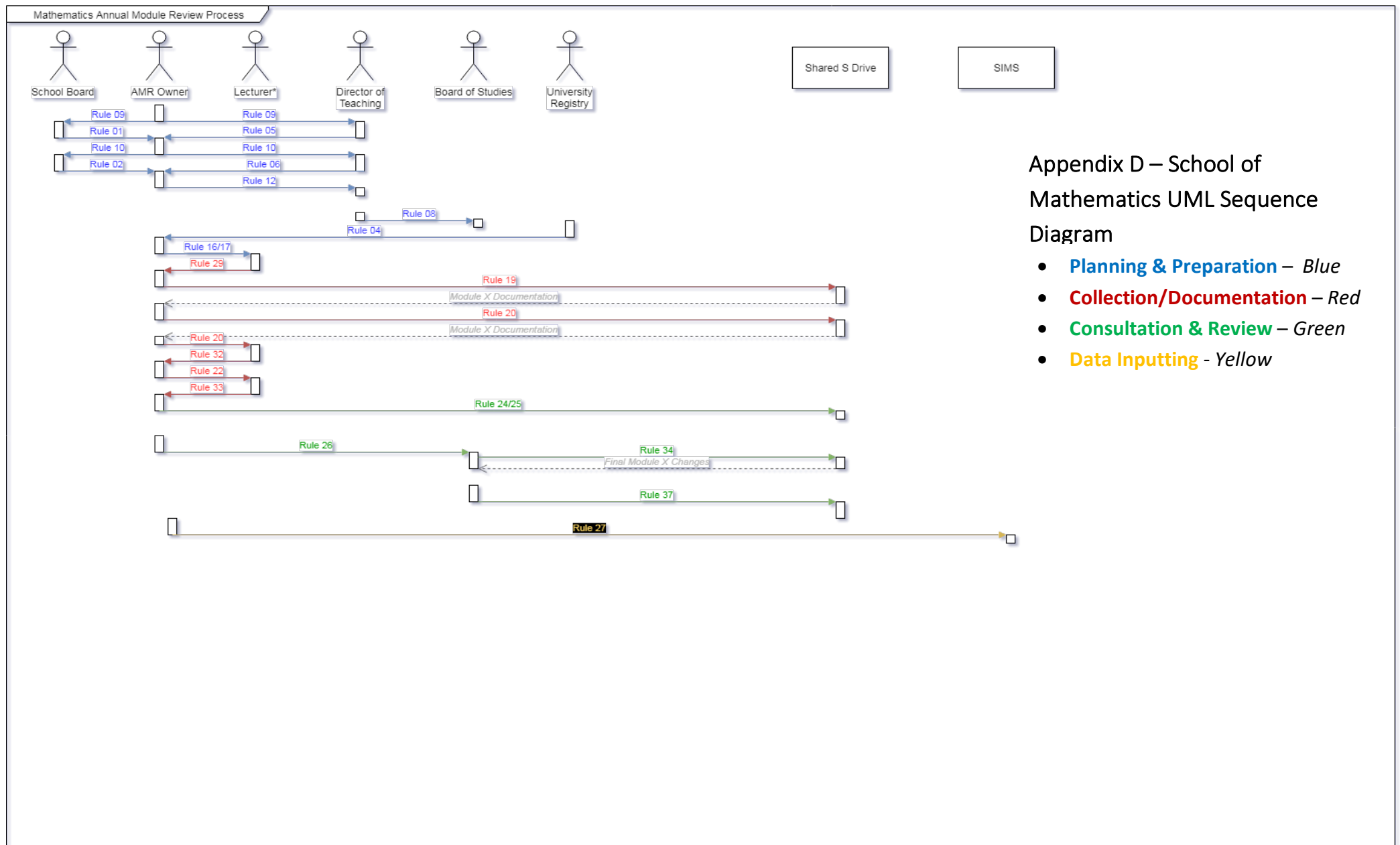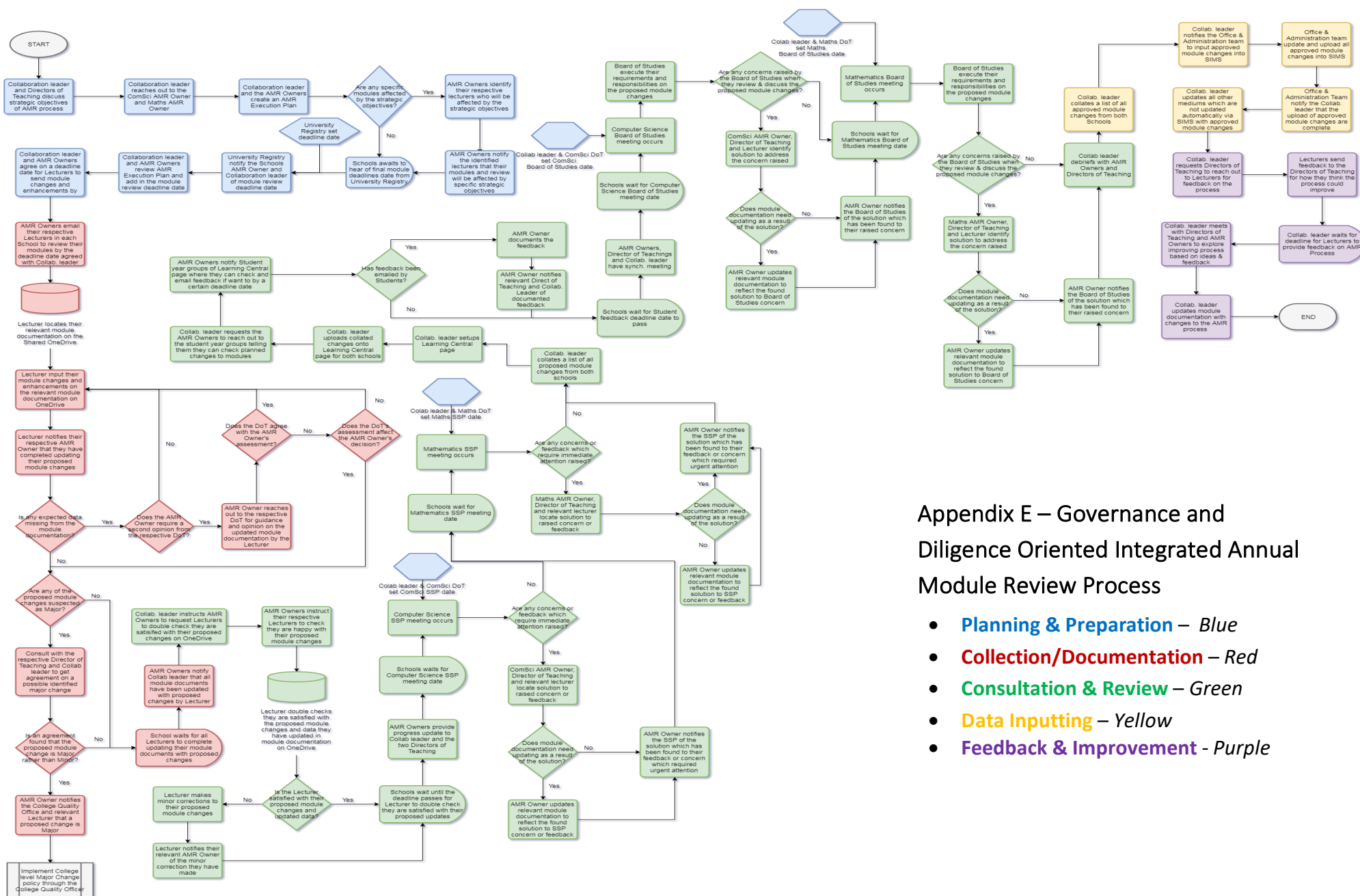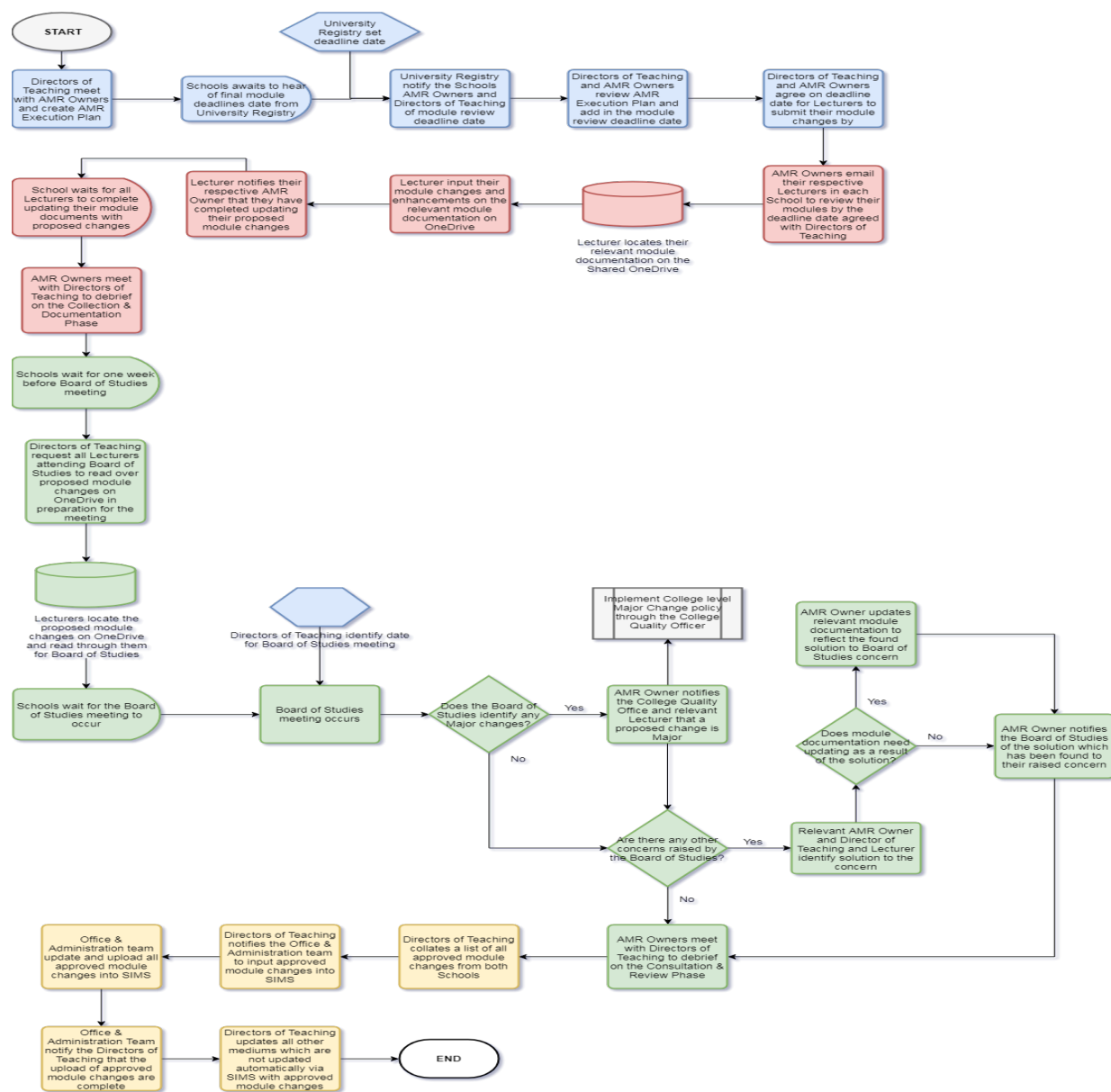
AMR Owners email their respective Lecturers in each School to review their modules by the deadline date agreed with Directors of Teaching

Lecturer locates their relevant module documentation on the Shared OneDrive

Lecturer input their module changes and enhancements on the relevant module documentation on OneDrive

Lecturer notifies their respective AMR Owner that they have completed updating their proposed module changes

School waits for all Lecturers to complete updating their module documents with proposed changes

AMR Owners meet with Directors of Teaching to debrief on the Collection & Documentation Phase

Schools wait for one week before Board of Studies meeting

Directors of Teaching request all Lecturers attending Board of Studies to read over proposed module changes on OneDrive in preparation for the meeting

Lecturers locate the proposed module changes on OneDrive and read through them for Board of Studies

Schools wait for the Board of Studies meeting to occur

Directors of Teaching identify date for Board of Studies meeting

Board of Studies meeting occurs

Does the Board of Studies identify any Major changes? — Yes / No

Implement College level Major Change policy through the College Quality Officer

AMR Owner notifies the College Quality Office and relevant Lecturer that a proposed change is Major

Are there any other concerns raised by the Board of Studies? — Yes / No

Relevant AMR Owner and Director of Teaching and Lecturer identify solution to the concern

Does module documentation need updating as a result of the solution? — Yes / No

AMR Owner updates relevant module documentation to reflect the found solution to Board of Studies concern

AMR Owner notifies the Board of Studies of the solution which has been found to their raised concern

AMR Owners meet with Directors of Teaching to debrief on the Consultation & Review Phase

Directors of Teaching collates a list of all approved module changes from both Schools

Directors of Teaching notifies the Office & Administration team to input approved module changes into SIMS

Office & Administration team update and upload all approved module changes into SIMS

Office & Administration Team notify the Directors of Teaching that the upload of approved module changes are complete

Directors of Teaching updates all other mediums which are not updated automatically via SIMS with approved module changes

END

Appendix G: School of Computer Science & Informatics Business Rules – Rule Numbers and Rule Names by Agent

- **Planning and Preparation** – *Blue*
- **Collection and Documentation** – *Red*
- **Consultation and Review** – *Green*
- **Data Inputting** - *Yellow*

University Registry

Rule 01: Generate Module Changes Deadline Date

Rule 02: Notify Schools of Module Changes Deadline Date

College Quality Officer

Rule 03: Execute Major Change Policy

Director of Teaching

Rule 04: Receiving AMR Execution Plan from AMR Owner

Rule 05: Check for Missing Information from proposed Module Changes

Rule 06: Missing Information Found

Rule 07: Check to see if any changes proposed are classified as Major Changes

Rule 08: Discuss with AMR Owner to find agreement if the change is classified as Major

Rule 09: Discuss with AMR Owner to understand how to address the Student* concern

Rule 10: Set Board of Studies Meeting Date

Rule 11: Notify the School of the Board of Studies Meeting Date

AMR Owner

Rule 12: Prepare and Plan for the Module Review Process

Rule 13: Set Lecturer Deadline Date

Rule 14: Notify Lecturers to Begin Module Review

Rule 15: Check for Missing Information from proposed Module Changes

Rule 16: Missing Information Found

Rule 17: Check to see if any changes proposed are classified as Major Changes

Rule 18: Discuss with Director of Teaching to find agreement if the change is classified as Major

Rule 19: Agreement that the proposed change is classified as Major

Rule 20: Request Lecturer* to do a final check on their proposed Module changes

Rule 21: Setup Learning Central Page

Rule 22: Collate all proposed Module changes

Rule 23: Upload proposed Module changes onto the Learning Central Page

Rule 24: Request Student* to provide feedback on the proposed Module changes

Rule 25: Discuss with Director of Teaching to understand how to address the Student* concern

Rule 26: Request that the relevant Lecturer* helps to address the Student* concern

Rule 27: Decide that Student* concern can be addressed without Lecturer input

Rule 28: Notify the Student* of the solution / understanding found for their concern / feedback

Rule 29: Update Module Documentation – Post Board of Studies (Correction Needed)

Rule 30: Update Module Documentation – Post Board of Studies (No Corrections Needed)

Rule 31: Collate list of all Board of Studies approved module changes for Office & Administration team

Rule 32: Notify Office & Administration Team to upload BoS approved module changes to SIMS

Rule 33: Update all other platforms and mediums of new module changes which do not pull from SIMS

Lecturer

Rule 34: Locate Relevant Module Documentation on Microsoft OneDrive

Rule 35: Input proposed Module changes into the relevant Module Documentation

Rule 36: Notify AMR Owner that Module changes have been inputted

Rule 37: Fill in Missing Information which has been identified by the AMR Owner or Director of Teaching

Rule 38: Notify AMR Owner and Director of Teaching that the Missing Information has been corrected

Rule 39: Major Change identified – await further communication from College Quality Officer

Rule 40: Check that all original proposed Module changes are still satisfactory

Rule 41: All original proposed Module changes are satisfactory

Rule 42: Issue or error identified with originally proposed Module changes

Rule 43: Notify AMR Owner and Director of Teaching of correction made to issue or error

Rule 44: Help AMR Owner and Director of Teaching with Student* feedback or concern

Rule 45: Request Student* for further details in order to satisfy their concerns or feedback

Rule 46: Use further details to identify solution to their concern or feedback

Rule 47: Identify a solution to the Student* concern / feedback without Student* input

Students

Rule 48: Check proposed Module changes to identify potential concerns or feedback

Rule 49: No potential concerns found or feedback necessary

Rule 50: Notify AMR Owner and Director of Teaching of potential concern found and feedback

Rule 51: Help Lecturer* identify a solution for the raised concern or feedback

Board of Studies

Rule 52: Board of Studies Meeting takes place

Rule 53: Check all proposed Module changes are satisfactory

Rule 54: Proposed Module changes are deemed as unsatisfactory

Office & Administration Team

Rule 55: Upload all approved and final Module changes into SIMS

Rule 56: Notify the AMR Owner that all final and approved Module changes been uploaded to SIMS

Appendix H: School of Mathematics Business Rules – Rule Numbers and Rule Names by Agent

- **Planning and Preparation** – *Blue*
- **Collection and Documentation** – *Red*
- **Consultation and Review** – *Green*
- **Data Inputting** - *Yellow*

School Board

Rule 01: Engage in discussion with AMR Owner and Director of Teaching in regard to Top-Down factors

Rule 02: Come to a decision as to whether or not top-down drivers will be enforced that academic year

University Registry

Rule 03: Generate Module Changes Deadline Date

Rule 04: Notify Schools of Module Changes Deadline Date

Director of Teaching

Rule 05: Engage in discussion with School Board and AMR Owner in regard to Top-Down factors

Rule 06: Come to a decision as to whether or not top-down drivers will be enforced that academic year

Rule 07: Set Board of Studies Meeting Date

Rule 08: Notify the School of the Board of Studies Meeting Date

AMR Owner

Rule 09: Engage in discussion with Director of Teaching and School Board in regard to Top-Down factors

Rule 10: Come to a decision as to whether or not top-down drivers will be enforced that academic year

Rule 11: Create Annual Module Review Process Execution plan to accommodate top-down drivers

Rule 12: Notify Director of Teaching of AMR Execution Plan taking into account the top-down drivers

Rule 13: Identify the Lecturer* which Module X is affected by the top-down drivers

Rule 14: Top-Down Drivers are not a factor that academic year

Rule 15: Identify Deadline Date for Lecturer* to propose Module changes

Rule 16: Notify Lecturer* Effected by the top-down drivers to begin Module review

Rule 17: Notify Lecturer* to begin Module review

Rule 18: Check to see if proposed Module X Changes are quick to update

Rule 19: The proposed Module X Changes are quick and easy to update on behalf of Lecturer*

Rule 20: The proposed Module X Changes are not quick and easy to update on behalf of Lecturer*

Rule 21: Are the changes to the Updated Module X Documentation clear to see

Rule 22: Check with Lecturer* what changes have been made to the Updated Module X Documentation

Rule 23: Create and update personal Module X Tracking Changes Document

Rule 24: Upload proposed Module X changes to the Shared S Drive

Rule 25: Upload proposed Module X changes to the Shared S Drive

Rule 26: Notify the Board of Studies to prepare for Board of Studies meeting

Rule 27: Upload Board of Studies approved Module changes to SIMS

Lecturer*

Rule 28: Identify the proposed Module X Changes for Module X review

Rule 29: Notify AMR Owner of proposed Module X Changes

Rule 30: Enable 'Tracking Changes' on Microsoft Word

Rule 31: Document proposed Module X Changes and update the Module X Documentation

Rule 32: Notify and send AMR Owner the Updated Module X Documentation

Rule 33: Discussion with AMR Owner to provide clarity to changes made to Module X Documentation

Board of Studies (BoS)

Rule 34: Prepare for Board of Studies Meeting

Rule 35: Board of Studies Meeting take place

Rule 36: Check all proposed Module changes are satisfactory

Rule 37: Add correction to proposed Module change

Appendix I: School of Computer Science and Informatics – Business Rules

#	Condition	Action / Task	Note
University Registry (UR)			
Generate Module Changes Deadline Date			
01	IF month == January AND IF **Module Deadline Date** == null	<Generate **Module Deadline Date**>	Identify the deadline date for all Schools to submit module and programme changes **Module Deadline Date** now has a value.
Notify Schools of Module Changes Deadline Date			
02	IF **Module Deadline Date** ≠ null AND IF **Module Deadline Date Notification** == null	<Generate **Module Deadline Date Notification**> AND <Add **Module Deadline Date** to **Module Deadline Date Notification**> AND <Send **Module Deadline Date Notification** to AMR Owner>	Generates a notification message (**Module Deadline Date Notification**) which contains the **Module Deadline Date** and is sent to all **AMR Owners** in all Schools, within Cardiff University

#	Condition	Action / Task	Note
College Quality Officer (CQO)			
Execute Major Change Policy			
03	IF **Major Change Notification** is received from **AMR Owner**	<Execute **Major Change Policy**>	**Major Change Policy** is executed at College level, not School level, like the AMR process. Therefore, the actions going forward from a **Major Change Notification** is managed in a separate process by the **College Quality Officer**

#	Condition	Action / Task	Note
Director of Teaching (DoT)			
Receiving AMR Execution plan from AMR Owner			
04	IF **AMR Execution Plan** is received from **AMR Owner**	<Read and process **AMR Execution Plan**>	The **DoT** is not responsible for the **AMR Execution Plan**'s execution, but is expected to support the **AMR Owner** in the **AMR Execution Plan**'s execution
Check for Missing Information from proposed Module Changes			
	IF **Lecturer*** updated **Module X**	<Generate **Module Changes Test (DoT)**>	The **AMR Owner** and **DoT** will often expect **Lecturer*** to include specific

05	**Documentation** with **Module X Changes** on the **Microsoft OneDrive** OR IF **Missing Information Correction** is received from **Lecturer***	AND <Apply **Module Changes Test (DoT)** against **Module X Documentation** on **Microsoft OneDrive** for missing information>	information alongside their proposed **Module X Changes** This rule enforces that the **Lecturer*** has followed this instruction If **Lecturer*** has included all expected information, **Module Changes Test (DoT)** == PASS If **Lecturer*** has NOT included all expected information, **Module Changes Test (DoT)** == FAIL
	<td colspan="3" align="center">**Missing Information Found**</td>		
06	IF **Module Changes Test (DoT)** == FAIL AND IF **Missing Information Notification** is NOT received from **AMR Owner** AND IF **Missing Information Notification (DoT)** == null	<Generate **Missing Information Notification (DoT)**> AND <Send **Missing Information Notification (DoT)** to **Lecturer*** and **AMR Owner**>	The **Missing Information Notification (DoT)** specifies to the **Lecturer*** what information is missing, asking them to make the relevant corrections. However, if the **AMR Owner** has already notified the lecturer another message is not sent.
	<td colspan="3" align="center">**Check to see if any changes proposed are classified as Major Changes**</td>		
07	IF **Module Changes Test (DoT)** == PASS AND IF **Major Change Test (DoT)** == null	<Generate **Major Change Test (DoT)**> AND <Apply **Major Change Test (DoT)** against **Module X Documentation** on **Microsoft OneDrive**>	The **Major Change Test (DoT)** is used to review the **Module X Documentation**, to ensure that the proposed **Module X Changes** are not too significant which lead to **Major Change Policy** being activated. If **Lecturer* Module X Documentation** does NOT contain major changes, **Major Change Test (DoT)** == PASS IF **Lecturer* Module X Documentation** does contain major changes, **Major Change Test (DoT)** == FAIL
	<td colspan="3" align="center">**Discuss with AMR Owner to find agreement if the change is classified as Major**</td>		
08	IF **Major Change Discussion** ≠ null AND IF **Major Change Discussion** is executed	<Engage in the **Major Change Discussion** with the **AMR Owner**>	When the **AMR Owner** believes that a proposed **Module X** change could be classified as Major rather than Minor. The **AMR Owner** engages with the **DoT** to discuss if that proposed

#	Condition	Action / Task	Note
	and received from **AMR Owner** OR IF **Major Change Test (DoT)** == FAIL		**Module X** change is in fact a Major change (**Major Change Discussion**).
	Discuss with AMR Owner to understand how to address the Student* concern		
09	IF **Student Concern Discussion** ≠ null AND IF **Student Concern Discussion** is executed and received from **AMR Owner**	<Engage in the **Student Concern Discussion** with the **AMR Owner**>	If a **Student*** sends in feedback or a concern (**Student Feedback Message**) in regard to a proposed **Module X** change, which they could see on **Learning Central Page**. The **AMR Owner** and **DoT** discuss to understand how to best address the concern or feedback.
	Set Board of Studies Meeting Date		
10	IF month == January AND IF **Board of Studies Date** == null	<Generate **Board of Studies Date**>	**DoT** identifies date for **Board of Studies** meeting.
	Notify the School of the Board of Studies Meeting Date		
11	IF **Board of Studies Date** ≠ null	<Generate **Board of Studies Date Notification**> AND <Add **Board of Studies Date** to **Board of Studies Date Notification**> <Send **Board of Studies Date Notification** to **Board of Studies**>	**DoT** notifies the **Board of Studies** of the date when the meeting will take place (**Board of Studies Date Notification**)

AMR Owner			
#	Condition	Action / Task	Note
	Prepare and Plan for the Module Review Process		
12	IF month == January AND IF **AMR Execution Plan** == null	<Generate **AMR Execution Plan**> AND <Send **AMR Execution Plan** to **DoT**>	**AMR Execution Plan** is a project and execution plan for the AMR owner to use, in order to manage the process within the time constraints set by the **Module Deadline Date** from **University Registry**.
	Set Lecturer Deadline Date		
13	IF **AMR Execution Plan** ≠ null AND	<Generate **Lecturer Deadline Date**>	**Lecturer Deadline Date** now has a value. The **Lecturer Deadline Date** is the date in which the AMR owner needs

	Condition	Action	Description
	IF **Module Deadline Date Notification** is received from **UR** AND IF **Lecturer Deadline Date** == null		the **Lecturer*** to send their proposed module changes by

<table>
<tr><td colspan="4" align="center">**Notify Lecturers to Begin Module Review**</td></tr>
</table>

14	IF **Lecturer Deadline Date** ≠ null AND IF **Lecturer Deadline Date Notification** == null	<Generate **Lecturer Deadline Date Notification**> AND <Add **Lecturer Deadline Date** to **Lecturer Deadline Date Notification**> AND <Send **Lecturer Deadline Date Notification** to **Lecturer*** and **DoT**>	Generates an email message which contains the **Lecturer Deadline Date** and is sent to the **Lecturer*** within the School (**Lecturer Deadline Date Notification**). The email message will instruct the **Lecturer*** to input their proposed module change on **Microsoft OneDrive** as well as any additional information the **DoT** or **AMR Owner** require

<table>
<tr><td colspan="4" align="center">**Check for Missing Information from proposed Module Changes**</td></tr>
</table>

15	IF **Module X Change Notification** is received from **Lecturer*** OR IF **Missing Information Correction** is received from **Lecturer***	<Generate **Module Changes Test**> AND <Apply **Module Changes Test** against **Module X Documentation** on **Microsoft OneDrive** for missing information>	The **AMR Owner** and **DoT** will often expect **Lecturer*** to include specific information alongside their proposed **Module X Changes** This rule enforces that the **Lecturer*** has followed this instruction If **Lecturer*** has included all expected information, **Module Changes Test** == PASS If **Lecturer*** has NOT included all expected information, **Module Changes Test** == FAIL

<table>
<tr><td colspan="4" align="center">**Missing Information Found**</td></tr>
</table>

16	IF **Module Changes Test** == FAIL AND IF **Missing Information Notification (DoT)** is NOT received from **DoT** AND IF **Missing Information Notification** == null	<Generate **Missing Information Notification**> AND <Send **Missing Information Notification** to **Lecturer*** and **DoT**>	The **Missing Information Notification** specifies to the **Lecturer*** what information is missing, asking them to make the relevant corrections. However, if the **DoT** has already notified the lecturer another message is not sent.

<table>
<tr><td colspan="4" align="center">**Check to see if any changes proposed are classified as Major Changes**</td></tr>
</table>

17	IF **Module Changes Test** == PASS AND IF **Major Change Test** == null	<Generate **Major Change Test**> AND <Apply **Major Change Test** against **Module X Documentation** on **Microsoft OneDrive**>	The **Major Change Test** is used to review the **Module X Documentation**, to ensure that the proposed **Module X Changes** are not too significant which lead to **Major Change Policy** being activated. If **Lecturer* Module X Documentation** does NOT contain major changes, **Major Change Test** == PASS IF **Lecturer* Module X Documentation** does contain major changes, **Major Change Test** == FAIL
Discuss with Director of Teaching to find agreement if the change is classified as Major
18	IF **Major Change Test** == FAIL OR IF **Major Change Test (DoT)** == FAIL OR IF **Major Change Discussion** is executed and received from **DoT**	<Engaged in **Major Change Discussion**> AND <Execute **Major Change Discussion** with **DoT**>	The **Major Change Discussion** which takes place with the **DoT**, aims for an agreement to be found as to whether or not the **Module X Changes** from the **Lecturer*** are too significant in size and as a result qualify as a major change, which requires a separate **Major Change Policy** If **Major Change Discussion** agree that there is a major change in the **Module X Changes**, **Major Change Discussion** == MAJOR CHANGE IDENTIFIED IF **Major Change Discussion** change their mind and decide there is not a major change in the **Module X Changes**, **Major Change Discussion** == MAJOR CHANGE NOT IDENTIFIED
Agreement that the proposed change is classified as Major
19	IF **Major Change Discussion** == MAJOR CHANGE IDENTIFIED AND IF **Major Change Notification** == null	<Generate **Major Change Notification**> AND <Send **Major Change Notification** to **College Quality Officer** and **Lecturer***>	The **Major Change Notification** will inform the **College Quality Officer** and **Lecturer*** that the proposed **Module X Changes** for the next academic year contain significant changes which will require **Major Change Policy** to be executed at College level by the **College Quality Officer**
Request Lecturer* to do a final check on their proposed Module changes

20	IF **Major Change Test ==** PASS OR IF **Major Change Test (DoT) ==** PASS OR IF **Major Change Discussion ==** MAJOR CHANGE NOT IDENTIFIED AND IF **Accuracy Deadline Date ==** null AND IF **Accuracy Notification == null**	<Generate **Accuracy Deadline Date**> AND <Generate **Accuracy Notification**> AND <Add **Accuracy Deadline Date** to **Accuracy Notification**> AND <Send **Accuracy Notification** to **Lecturer***>	The **Accuracy Notification** requests the **Lecturer*** to access **Microsoft OneDrive** where they previously updated their **Module X Documentation**, and check that they are satisfied with the changes they are proposing. The **Accuracy Notification** will provide a date (**Accuracy Deadline Date**) for the **Lecturer*** to respond to the **AMR Owner** if they have made any small changes The **Accuracy Notification** will specify that only very small edits are expected, as extensive changes which require checks from the **DoT** and **AMR Owner** should have been completed in Rule 29 (Document Module Changes)

table header
Setup Learning Central Page

21	IF **Module X Correction Notification** is received from **Lecturer*** OR IF DATE > **Accuracy Deadline Date** AND IF **Learning Central Page == null**	<Generate **Learning Central Page**>	A final date of response was specified in the **Accuracy Notification** (**Accuracy Deadline Date**) **AMR Owner** sets up **Learning Central Page** on **Learning Central**

table header
Collate all proposed Module changes

22	IF **Learning Central Page** ≠ null	<Generate **Final Module X Changes**>	**AMR Owner** extracts and collates all module changes that have been proposed in the **Module X Documentation** The **Final Module X Changes** contains all the extracted and collated module changes from the **Module X Documentation** on **Microsoft OneDrive**

table header
Upload proposed Module changes onto the Learning Central Page

23	IF **Final Module X Changes** ≠ null	<Upload **Final Module X Changes** onto **Learning Central Page** on **Learning Central**>	**AMR Owner** uploads the **Final Module X Changes** onto the **Learning Central Page** on **Learning Central**.

table header
Request Student* to provide feedback on the proposed Module changes

24	IF **Final Module X Changes** have been uploaded onto **Learning Central Page** on **Learning Central** AND IF **Student Deadline Date** == null AND IF **Student Notification** == null	<Generate **Student Deadline Date**> AND <Generate **Student Notification**> AND <Add **Student Deadline Date** to **Student Notification**> AND <Send **Student Notification** to **Student***>	The **Student Notification** contains a date (**Student Deadline Date**) in which the **AMR Owner** requests the **Student*** to provide feedback, if they want to, on the **Final Module X Changes** on the **Learning Central Page** on **Learning Central**
	Discuss with Director of Teaching to understand how to address the Student* concern		
25	IF **Student Feedback Message** is received from **Student*** AND IF **Student Concern Discussion** == null	<Generate **Student Concern Discussion**> AND <Execute **Student Concern Discussion** with **DoT**>	Based on the **Student Feedback Message**, the **AMR Owner** engages with the **DoT** to discuss the feedback or concern raised by the **Student*** to understand if it requires further **Lecturer*** input If **Student Concern Discussion** agree that the **Student Feedback Message** requires **Lecturer*** input, **Student Concern Discussion** == LECTURER REQ. IF **Student Concern Discussion** agree that the **Student Feedback Message** does NOT require **Lecturer*** input, **Student Concern Discussion** == LECTURER NOT REQ.
	Request that the relevant Lecturer* helps to address the Student concern		
26	IF **Student Concern Discussion** == LECTURER REQ. AND IF **Lecturer Input Notification** == null	<Generate **Lecturer Input Notification**> AND <Send **Lecturer Input Notification** to **Lecturer***>	The **Lecturer Input Notification** requests the **Lecturer*** work with the **AMR Owner** and **DoT** to find a solution to or understand the **Student Feedback Message** from the **Student***
	Decide that Student* concern can be addressed without Lecturer input		
27	IF **Student Concern Discussion** == LECTURER NOT REQ. AND IF **Feedback Solution** == null	<Generate **Feedback Solution** with **DoT**>	As no **Lecturer*** input is required to understand the feedback or find a solution to the concern from the **Student*** The **AMR Owner** and **DoT** work together to generate a solution or understanding (**Feedback Solution**) of

			the **Student*** feedback (**Student Feedback Message**)
	Notify the Student* of the solution / understanding found for their concern / feedback		
28	IF **Lecturer Solution X** is received from **Lecturer*** OR IF **Lecturer Solution** is received from **Lecturer*** OR IF **Feedback Solution** ≠ null AND IF **Student Feedback Final Solution** == null	<Generate **Student Feedback Final Solution**> AND <Send **Student Feedback Final Solution** to **Student***>	**AMR Owner** informs the **Student*** who raised a concern or provided feedback (**Student Feedback Message**) of the understanding or solution found (**Student Feedback Final Solution**)
	Update Module Documentation – Post Board of Studies (Corrections Needed)		
29	IF **Board of Studies Module X Correction** ≠ null	<Update **Final Module X Changes** with **Board of Studies Module X Correction**> AND <Update **BoS Approved Module X Changes** with **Final Module X Changes**>	**AMR Owner** updates relevant proposed module changes documentation (**Final Module X Changes** and **BoS Approved Module X Changes**) with the approved changes discussed at the **Board of Studies Meeting**
	Update Module Documentation – Post Board of Studies (No Corrections Needed)		
30	IF **Board of Studies Module X Check** == PASS	<Update **BoS Approved Module X Changes** with **Final Module X Changes**>	**AMR Owner** moves all approved proposed **Module X** enhancements which are currently in **Final Module X Changes**, as no corrections were applied from the **Board of Studies** (**Board of Studies Module X Correction**) to the **BoS Approved Module X Changes** file.
	Collate list of all Board of Studies approved module changes for Office & Administration Team		
31	IF **BoS Approved Module X Changes** has been updated with **Final Module X Changes** AND IF **Administrative List** == null	<Generate **Administrative List**>	**AMR Owner** extracts and collates all module changes that have been proposed in the **BoS Approved Module X Changes** The **Administrative List** is simplified with the aim to make it easy for the **Office & Administration** Team to conduct data input
	Notify Office & Administration Team to upload BoS approved module changes to SIMS		

#	Condition	Action / Task	Note
32	IF **Administrative List** ≠ null AND IF **O&A Team Notification** == null	**<Generate O&A Team Notification>** AND **<Send O&A Team Notification to Office & Administration Team>**	The **O&A Team Notification** contains the **Administrative List** and instructions to begin data inputting of the proposed module changes from the **Administrative List** into the **Student Information Management System**, along with a date for the tasks completion. **AMR Owner** sends O**&A Team Notification** to the **Office & Administrative Team**
Update all other platforms and mediums of new module changes which do not pull from SIMS		
33	IF **Data Input Complete Message** is received from **Office & Administration Team**	**<Update all other mediums which require manual changes with the Administrative List>**	**AMR Owner** updates all other mediums and platforms which do not automatically pull the updated module changes (**BoS Approved Module X Changes**) from the **Student Information Management System**

Lecturer			
#	Condition	Action / Task	Note
Locate Relevant Module Documentation on Microsoft OneDrive		
34	IF **Lecturer Deadline Date Notification** is received from **AMR Owner** AND IF **Lecturer*** teaches **Module X** AND IF DATE <= **Lecturer Deadline Date**	**<Locate Module X Documentation** on the **Microsoft OneDrive>**	Access the shared **Microsoft OneDrive** within the School and locate the relevant **Module X Documentation** which contains the current module syllabus and details for **module X**
Input proposed Module changes into the relevant Module Documentation		
35	IF **Lecturer Deadline Date Notification** is received from **AMR Owner** AND IF **Lecturer** teaches **Module X** AND IF **Module X Documentation** is	**<Generate proposed Module X Changes>** AND **<Update Module X Documentation** with **Module X Changes** on the **Microsoft OneDrive>**	**Lecturer*** generates all proposed module syllabus changes and details for the next academic year (**Module X Changes** ≠ null). Those **Module X Changes** are then inputted onto the **Module X Documentation** on the shared **Microsoft OneDrive** as a record.

	located on the **Microsoft OneDrive** AND IF DATE <= **Lecturer Deadline Date** AND IF **Module X Changes** == null		
Notify AMR Owner that Module changes have been inputted			
36	IF **Module X Changes** ≠ null AND **Module X Documentation** is updated with **Module X Changes** on **Microsoft OneDrive** AND IF **Module X Change Notification** == null	<Generate **Module X Change Notification**> AND <Send **Module X Change Notification** to AMR Owner>	Lecturer generates an email message or notification (**Module X Change Notification**) which informs the AMR Owner that their proposed **Module X Changes** for the next academic year can be found on the Shared **Microsoft OneDrive** in the **Module X Documentation**.
Fill in Missing Information which has been identified by the AMR Owner or Director of Teaching			
37	IF **Missing Information Notification** is received from **AMR Owner** OR IF **Missing Information Notification (DoT)** is received from **DoT** AND IF **Module X Correction** == null	<Generate **Module X Correction**> AND <Update **Module X Documentation** on **Microsoft OneDrive** with **Module X Correction**>	**Lecturer*** make the relevant adjustments to their **Module X Documentation** based on details outlined by the **AMR Owner** in the **Missing Information Notification**
Notify AMR Owner and Director of Teaching that the Missing Information has been corrected			
38	IF **Module X Correction** is updated on **Module X Documentation** on **Microsoft One Drive** AND IF **Missing Information Correction** == null	<Generate **Missing Information Correction**> AND <Send **Missing Information Correction** to **AMR Owner** and **DoT**>	**Lecturer*** sends message to **DoT** and **AMR Owner** of their **Missing Information Correction**, making clear that **Module X Correction** has been applied to **Module X Documentation** on **Microsoft OneDrive**
Major Change identified – await further communication from College Quality Officer			
39	IF **Major Change Notification** is received from **AMR Owner**	<Await further instructions from **College Quality Officer** of next steps in accordance with the **Major Change Policy**>	A **Major Change Policy** needs to be executed at College level by the **College Quality Officer**, this is managed separate from the AMR

			process within the School, which is managed by the **AMR Owner**

	Check that all original proposed Module changes are still satisfactory		
40	IF **Accuracy Notification** is received from **AMR Owner** AND DATE <= **Accuracy Deadline Date** AND IF **Accuracy Check** == null	<Generate **Accuracy Check**> AND <Apply **Accuracy Check** against the **Module X Documentation** on the **Microsoft OneDrive**>	A final date of response was specified in the **Accuracy Notification** (**Accuracy Deadline Date**) As noted in the **Accuracy Notification** from the **AMR Owner**, the **Lecturer*** needs to access their **Module X Documentation** on the **Microsoft OneDrive** and through the **Accuracy Check** ensure they are satisfied with the changes the **Lecturer*** has proposed IF the **Lecturer*** is satisfied with their proposed module changes outlined in the **Module X Documentation** then, **Accuracy Check** == PASS IF the **Lecturer*** is not satisfied with their proposed module changes outlined in the **Module X Documentation** then, **Accuracy Check** == FAIL
	All original proposed Module changes are satisfactory		
41	IF **Accuracy Check** == PASS	<Do Nothing>	There is no requirement for the **Lecturer*** to notify the **AMR Owner** if they are happy with their proposed changes in the **Module X Documentation** on **Microsoft OneDrive**, as the **AMR Owner** assumes no response means there are no issues
	Issue or error identified with originally proposed Module changes		
42	IF **Accuracy Check** == FAIL AND IF **Module Accuracy X Correction** == null	<Generate **Module X Accuracy Correction**> AND <Update **Module X Documentation** on Microsoft OneDrive with the **Module X Accuracy Correction**>	The **Lecturer*** notices what needs adjusting and applies their **Module X Accuracy Correction** to the **Module X Documentation**, so the **Module X Documentation** reflects what the **Lecturer*** expects
	Notify AMR Owner and Director of Teaching of correction made to issue or error		
	IF **Module X Documentation** on **Microsoft OneDrive** has	<Generate **Module X Correction Notification**> AND	The **Lecturer*** creates a message (**Module X Correction Notification**) which specifies the error the **Lecturer***

43	been updated with **Module X Accuracy Correction** AND IF **Module X Correction Notification** == null	<Send **Module X Correction Notification** to **AMR Owner**>	spotted when conducting the **Accuracy Check** and detailing the **Module X Accuracy Correction** which was applied to the **Module X Documentation**. The **Module X Correction Notification** is sent to the **AMR Owner**
	Help AMR Owner and Director of Teaching with Student* feedback or concern		
44	IF **Lecturer Input Notification** is received from **AMR Owner** AND IF **Student Feedback Check** == null	<Generate **Student Feedback Check**> AND <Apply **Student Feedback Check** against the **Student Feedback Message**>	The **Lecturer*** checks the **Student*** concern or feedback as notified by the **AMR Owner** (**Lecturer Input Notification**) to understand if it requires additional **Student*** input in order for a solution or understanding to be found. IF the **Lecturer*** is UNABLE to find a solution or gain an understanding without further **Student*** input then, **Student Feedback Check** == STUDENT REQ. IF the **Lecturer*** is ABLE to find a solution or gain an understanding without further **Student*** input then, **Student Feedback Check** == STUDENT NOT REQ.
	Request Student* for further details in order to satisfy their concern or feedback		
45	IF **Student Feedback Check** == STUDENT REQ. AND IF **Student Help Message** == null	<Generate **Student Help Message**> AND <Send **Student Help Message** to **Student***>	The **Lecturer*** reaches out to the **Student*** who raised the concern (**Student Feedback Message**) requesting further information in order to find a solution or understanding of the **Student*** feedback or concern raised in the **Student Feedback Message**
	Use further details to identify solution to their concern or feedback		
46	IF **Further Details** is received from **Student*** AND IF **Lecturer Solution** == null	<Generate **Lecturer Solution**> AND <Send **Lecturer Solution** to **AMR Owner** and **DoT**>	With the **Further Details** received from the **Student***, the **Lecturer*** finds a solution or understanding to the **Student*** feedback or concern (**Student Feedback Message**) The **Lecturer*** notifies the **AMR Owner** and **DoT** of that solution (Lecturer Solution)
	Identify a solution to the Student* concern / feedback without Student* input		

#	Condition	Action / Task	Note
47	IF **Student Feedback Check** == STUDENT NOT REQ. AND IF **Lecturer Solution X** == null	<Generate **Lecturer Solution X**> <Send **Lecturer Solution X** to **AMR Owner and DoT**>	The **Lecturer*** does not require **Student*** input in order to identify a solution to the **Student Feedback Message**, and as a result identifies a solution to the **Student*** concern / feedback, and notifies the **AMR Owner** and **DoT** of that solution (**Lecturer Solution**)

Students			
#	Condition	Action / Task	Note
Check proposed Module changes to identify potential concerns or feedback			
48	IF **Student Notification** is received from **AMR Owner** AND DATE <= **Student Deadline Date** AND IF **Student Concern Check** == null	<Generate **Student Concern Check**> AND <Apply **Student Concern Check** against **Final Module X Changes** on **Learning Central Page** on **Learning Central**>	A final date of response was specified in the **Student Notification** (**Student Deadline Date**) **Student*** check **Final Module X Changes** on the **Learning Central Page**, on **Learning Central** to see if there is any specific feedback they want to notify the **AMR Owner** about. If there is feedback the **Student*** wants to express then, **Student Concern Check** == CONCERN If there is NOT feedback the **Student*** wants to express then, **Student Concern Check** == NO CONCERN
No potential concerns found or feedback necessary			
49	If **Student Concern Check** == NO CONCERN AND IF DATE <= **Student Deadline Date**	<Do Nothing>	A final date of response was specified in the **Student Notification** (**Student Deadline Date**) If the **Student*** has no concerns or feedback they want to express with the **AMR Owner**, no further action is required.
Notify AMR Owner and Director of Teaching of potential concern found and feedback			
50	IF **Student Concern Check** == CONCERN AND IF DATE <= **Student Deadline Date** AND IF **Student Feedback Message** == null	<Generate **Student Feedback Message**> AND <Send **Student Feedback Message** to **AMR Owner** and **DoT**>	A final date of response was specified in the **Student Notification** (**Student Deadline Date**) **Student Feedback Message** contains the feedback and concerns that the **Student*** has in regard to the **Final Module X Changes** on **Learning Central Page**, on **Learning Central**.

#	Condition	Action / Task	Note
			The **Student Feedback Message** is emailed to **AMR Owner**
Help Lecturer* identify a solution for the raised concern or feedback		
51	IF **Student Help Message** is received from **Lecturer*** AND IF **Further Details** == null	<Generate **Further Details**> AND <Send **Further Details** to **Lecturer***>	The **Student*** responds to the **Student Help Message**, sending the additional details (**Further Details**) the **Lecturer*** needs in order to gain an understanding and find a solution

NOTE: Lecturers, AMR Owner and DoT are all members of the Board of Studies

Board of Studies (BoS)			
#	Condition	Action / Task	Note
Board of Studies Meeting takes place		
52	IF **Board of Studies Date Notification** is received from **DoT** AND IF DATE == **Board of Studies Date** AND IF **Board of Studies Meeting** == null	<Generate **Board of Studies Meeting** session>	Host **Board of Studies Meeting** If **Board of Studies Meeting** is taking place then, **Board of Studies Meeting** ≠ null
Check all proposed Module changes are satisfactory		
53	IF **Board of Studies Meeting** ≠ null AND IF **Board of Studies Module X Check** == null AND IF **BoS Approved Module X Changes** == null	<Generate **Board of Studies Module X Check**> AND <Apply **Board of Studies Module X Check** against **Final Module X Changes**> AND <Generate **BoS Approved Module X Changes**>	All members of the **Board of Studies** check that the proposed **Final Module X Changes** by the **Lecturer*** are satisfactory under School and College policy as well as within the AMR process module change guidelines IF the **Final Module X Changes** are satisfactory then, **Board of Studies Module X Check** == PASS IF the **Final Module X Changes** are NOT satisfactory then, **Board of Studies Module X Check** == FAIL All approved changes are saved in the **BoS Approved Module X Changes** by the **AMR Owner**
Proposed Module changes are deemed as unsatisfactory		

#	Condition	Action / Task	Note
54	IF **Board of Studies Module X Check** == FAIL AND IF **Board of Studies Module X Correction** == null	<Generate **Board of Studies Module X Correction**>	The **Board of Studies** create the module correction to ensure that the **Board of Studies** are satisfied with the proposed module changes by the **Lecturer***

Office & Administration Team (O&A)			
#	Condition	Action / Task	Note
Upload all approved & final Module changes into the Student Information Management System			
55	IF **O&A Team Notification** is received from **AMR Owner**	<Update **Student Information Management System** with **Administrative List**>	**Office & Administration Team** input all proposed module changes from the **Administrative List**, which was contained in the **O&A Team Notification** by the date outlined which was also contained in the **O&A Team Notification**
Notify the AMR Owner that all final & approved Module changes have been uploaded to SIMS			
56	IF **Student Information Management System** has been updated with **Administrative List** AND IF **Data Input Complete Message** == null	<Generate **Data Input Complete Message**> AND <Send **Data Input Complete Message** to **AMR Owner**>	**Office & Administration Team** notify the **AMR Owner** through the **Data Input Complete Message**, that all data inputting to the **Student Information Management System** has been completed.

There is a total of 56 business rules for the Computer Science and Informatics Annual Module Review process.

Appendix J: School of Mathematics – Business Rules

		School Board	
#	<u>Condition</u>	<u>Action / Task</u>	<u>Note</u>
	Engage in discussion with AMR Owner & Director of Teaching in regard to Top-Down factors		
01	IF **Top-Down Driver Discussion** ≠ null AND IF **Top-Down Driver Discussion** is engaged from **AMR Owner**	<Engage in the **Top-Down Driver Discussion** with **AMR Owner** and **DoT**>	At the start of the academic year, the **AMR Owner**, **DoT** and **School Board** engage in a strategic discussion (**Top-Down Driver Discussion**) and meeting, which outlines whether or not any top-down changes will be enforced and influence **Module X** for that academic year, which will need to be part of the Annual Module Review process
	Come to a decision as to whether or not top-down drivers will be enforced that academic year		
02	IF **Top-Down Driver Discussion** ≠ null AND IF **Top-Down Driver Discussion** is engaged with **AMR Owner** and **DoT**	<Engage in **Top-Down Driver Decision** with **DoT** and **AMR Owner**>	The **Top-Down Driver Decision** outlines whether or not that academic year, the **AMR Owner** needs to ensure top-down driver changes are included in the Annual Module Review process. The Top-Down Driver Decision is created along with the **DoT** and **School Board**.

		University Registry (UR)	
#	<u>Condition</u>	<u>Action / Task</u>	<u>Note</u>
	Generate Module Changes Deadline Date		
03	IF month == January AND IF **Module Deadline Date** == null	<Generate **Module Deadline Date**>	Identify the deadline date for all Schools to submit module and programme changes **Module Deadline Date** now has a value.
	Notify Schools of Module Changes Deadline Date		
04	IF **Module Deadline Date** ≠ null	<Generate **Module Deadline Date Notification**> AND <Add **Module Deadline Date** to **Module Deadline Date Notification**> AND <Send **Module Deadline**	Generates a notification message (**Module Deadline Date Notification**) which contains the **Module Deadline Date** and is sent to all **AMR Owners** in all Schools, within Cardiff University

#	Condition	Action / Task	Note
		Date Notification to AMR Owner>	

Director of Teaching (DoT)			
#	Condition	Action / Task	Note
Engage in discussion with School Board and AMR Owner in regard to Top-Down factors			
05	IF **Top-Down Driver Discussion** ≠ null AND IF **Top-Down Driver Discussion** is engaged from **AMR Owner**	<Engage in the **Top-Down Driver Discussion** with **School Board** and **AMR Owner**>	At the start of the academic year, the **AMR Owner**, **DoT** and **School Board** engage in a strategic discussion (**Top-Down Driver Discussion**) and meeting, which outlines whether or not any top-down changes will be enforced and influence **Module X** for that academic year, which will need to be part of the Annual Module Review process
Come to a decision as to whether or not top-down drivers will be enforced that academic year			
06	IF **Top-Down Driver Discussion** ≠ null AND IF **Top-Down Driver Discussion** is engaged with **AMR Owner** and **School Board**	<Engage in **Top-Down Driver Decision** with **AMR Owner** and **School Board**>	The **Top-Down Driver Decision** outlines whether or not that academic year, the **AMR Owner** needs to ensure top-down driver changes are included in the Annual Module Review process. The Top-Down Driver Decision is created along with the **DoT** and **School Board**.
Set Board of Studies Meeting Date			
07	IF month == January AND IF **Board of Studies Date** == null	<Generate **Board of Studies Date**>	**DoT** identifies date for **Board of Studies** meeting.
Notify the School of the Board of Studies Meeting Date			
08	IF **Board of Studies Date** ≠ null	<Generate **Board of Studies Date Notification**> AND <Add **Board of Studies Date** to **Board of Studies Date Notification**> <Send **Board of Studies Date Notification** to **Board of Studies**>	**DoT** notifies the **Board of Studies** of the date when the meeting will take place (**Board of Studies Date Notification**)

AMR Owner			

#	Condition	Action / Task	Note
Engage in discussion with Director of Teaching and School Board in regard to Top-Down factors			
09	IF month == September AND IF **Top-Down Driver Discussion** == null	<Generate **Top-Down Driver Discussion**> AND <Engage in the **Top-Down Driver Discussion** with **School Board** and **DoT**>	At the start of the academic year, the **AMR Owner**, **DoT** and **School Board** engage in a strategic discussion (**Top-Down Driver Discussion**) and meeting, which outlines whether or not any top-down changes will be enforced and influence **Module X** for that academic year, which will need to be part of the Annual Module Review process
Come to a decision as to whether or not top-down drivers will be enforced that academic year			
10	IF **Top-Down Driver Discussion** ≠ null AND IF **Top-Down Driver Discussion** is engaged with **DoT** and **School Board** AND IF **Top-Down Driver Decision** == null	<Generate **Top-Down Driver Decision** with **DoT** and **School Board**>	The **Top-Down Driver Decision** outlines whether or not that academic year, the **AMR Owner** needs to ensure top-down driver changes are included in the Annual Module Review process. The Top-Down Driver Decision is created along with the **DoT** and **School Board**. IF top-down drivers for module change and enhancements are required then, **Top-Down Driver Decision** == TOP-DOWN DRIVER REQUIRED IF top-down drivers for module change and enhancements are NOT required then, **Top-Down Driver Decision** == TOP-DOWN DRIVER NOT REQUIRED
Create Annual Module Review Process Execution plan to accommodate top-down drivers			
11	IF **Top-Down Driver Decision** == TOP-DOWN DRIVER REQUIRED AND IF **AMR Execution Plan** == null	<Generate **AMR Execution Plan**>	The **AMR Execution Plan** allows the **AMR Owner** to document how they will pursue the Annual Module Review process taking into account the top-down driver changes which will effect **Module X**.
Notify Director of Teaching of AMR Execution Plan taking into account the top-down drivers			
12	IF **AMR Execution Plan** ≠ null	<Send **AMR Execution Plan** to **DoT**>	**AMR Owner** is expected to consult and keep the **DoT** informed, including how the **AMR Owner** plans to implement the AMR process with the additional top-down drivers

Identify the Lecturer* which Module X is affected by the top-down drivers			
13	IF **Top-Down Drive Decision** == TOP-DOWN DRIVER REQUIRED AND IF **Effect Lecturer* List** == null	<Identify the **Lecturer*** whose **Module X** is affected by the top-down drivers> AND <Generate **Effected Lecturer* List**> AND <Update **Effected Lecturer* List** with the identified **Lecturer*** and their **Module X**>	The **AMR Owner documents** (**Effected Lecturer* List**) the **Lecturer*** and their **Module X** which will be affected by the top-down drivers for this academic year's annual module review process.
Top-Down Drivers are not a factor that academic year			
14	IF **Top-Down Driver Decision** == TOP-DOWN DRIVER NOT REQUIRED	<Do Nothing>	**AMR Owner** is not required to take any further action at this point in the process if top-down drivers are not required for that academic year's annual module review process
Identify Deadline Date for Lecturer* to propose Module changes			
15	IF **Module Deadline Date Notification** is received from **University Registry** AND IF **Lecturer Deadline Date** == null	<Generate **Lecturer Deadline Date**>	The **AMR Owner** identifies a deadline date (**Lecturer Deadline Date**) for the **Lecturer*** to propose all their **Module X** changes by.
Notify Lecturer* Effected by the top-down drivers to begin Module review			
16	IF **Lecturer Deadline Date** ≠ null AND IF **Effected Lecturer* List** ≠ null AND IF **Top-Down Driver Lecturer* Notification** == null	<Generate **Top-Down Driver Lecturer* Notification**> AND <Add **Lecturer Deadline Date** to the **Top-Down Driver Lecturer* Notification**> AND <Send **Top-Down Driver Lecturer* Notification** to the **Lecturer*** in the **Effected Lecturer* List**>	The **Top-Down Driver Lecturer* Notification** is an email message sent by the **AMR Owner** to the specific **Lecturer*** who is a member of the **Effected Lecturer* List**. The **Top-Down Driver Lecturer* Notification** outlines the effect the top-down drivers have on the **Lecturer*** module review process, as well as the **Lecturer* Deadline Date** for the **Lecturer*** to send all their proposed Module X enhancements by.
Notify Lecturer* to begin Module review			
	IF **Lecturer Deadline Date** ≠ null AND IF **Lecturer Deadline Date Notification** == null	<Generate **Lecturer Deadline Date Notification**> AND	This is a separate notification and message from the **Top-Down Driver Lecturer* Notification**. The **AMR Owner** notifies the **Lecturer*** to begin their module X

17		<Add **Lecturer Deadline Date** to **Lecturer Deadline Date Notification**> AND <Send **Lecturer Deadline Date Notification** to **Lecturer***>	review, along with the deadline date (**Lecturer Deadline Date**) in which to respond with their proposed module X enhancements by.
	Check to see if the proposed Module X Changes are quick to update		
18	IF **Module X Changes Notification** is received from **Lecturer*** AND IF **Size of Change Check** ≠ null	<Generate **Size of Change Check**> AND <Apply **Size of Change Check** against **Module X Changes**>	**AMR Owner** checks (**Size of Change Check**) if the proposed **Module X Changes** are quick to update and as a result the AMR Owner can update the relevant Module X Documentation, instead of the lecturer to save time. IF the proposed **Module X Changes** are quick to update then, **Size of Change Check** == QUICK TO UPDATE IF the proposed **Module X Changes** are NOT quick to update then, **Size of Change Check** == NOT QUICK TO UPDATE
	The proposed Module X Changes are quick & easy to update on behalf of Lecturer*		
19	IF **Size of Change Check** == QUICK TO UPDATE AND IF **Module X Documentation Updated by AMR Owner** == null	<Locate **Module X Documentation** on the **Shared S Drive**> AND <Download **Module X Documentation** from the **Shared S Drive**> AND <Update **Module X Documentation** with **Module X Changes**> AND <Generate **Module X Documentation Updated by AMR Owner**>	The **AMR Owner** decides that the proposed **Module X Changes** are quick to update and note. As a result, the **AMR Owner** locates the **Module X Documentation** on the **Shared S Drive**, and updates the **Module X Documentation** with the **Module X Changes** on behalf of the **Lecturer*** The **Module X Documentation Updated by AMR Owner** contains the **Module X Documentation** updated with the **Module X Changes** by the **AMR Owner**
	The proposed Module X Changes are not quick & easy to update on behalf of Lecturer*		
	IF **Size of Change Check** == NOT QUICK TO UPDATE AND	<Locate **Module X Documentation** on the **Shared S Drive**> AND	The **AMR Owner** decides that the proposed **Module X Changes** are quick to update and note. As a result the **AMR Owner** locates the **Module**

20	IF **Module X Documentation Notification** == null	<Download **Module X Documentation** on the **Shared S Drive**> AND <Generate **Module X Documentation Notification**> AND <Update **Module X Documentation Notification** with **Module X Documentation**> AND <Send **Module X Documentation Notification** to **Lecturer***>	**X Documentation** on the **Shared S Drive**, and downloads the **Module X Documentation**. The **AMR Owner** creates a notification (**Module X Documentation Notification**) and updates that notification with the **Module X Documentation**, within the **Module X Documentation Notification**, the **AMR Owner** requests that when they update the **Module X Documentation** with their proposed **Module X Changes**, they select the 'Tracking Changes' within Microsoft Word, to ensure the **AMR Owner** can clearly check what has been changed. The **AMR Owner** sends the **Module X Documentation Notification** to the **Lecturer***

	Are the changes to the Updated Module X Documentation clear to see		
21	IF **Updated Module X Documentation Notification** is received from the **Lecturer***	<Generate **Noticeable Changes Check**> AND <Apply **Noticeable Changes Check** against the **Updated Module X Documentation**>	**AMR Owner** receives the **Updated Module X Documentation** via the **Updated Module X Documentation Notification**, and checks that within the **Updated Module X Documentation**, the **AMR Owner** is able to derive what changes have been noted and documented within the **Updated Module X Documentation**. IF within the **Updated Module X Documentation,** the changes are clear then, **Noticeable Changes Check** == CLEAR IF within the **Updated Module X Documentation,** the changes are NOT clear then, **Noticeable Changes Check** == NOT CLEAR

	Check with Lecturer* what changes have been made to the Updated Module X Documentation		
	IF **Noticeable Changes Check** == NOT CLEAR OR	<Generate **Changes Clarification Discussion**>	**AMR Owner** decides that it is difficult to understand what changes have been made to the **Updated Module X**

22	IF **Changes Clarification Discussion** == null OR IF **Changes Clarification Discussion** == CLARITY NOT FOUND	AND <Engage in **Changes Clarification Discussion** with Lecturer*>	**Documentation**, and the changes are not immediately obvious. As a result, the **AMR Owner** engages in a conversation and discussion (**Changes Clarification Discussion**) with the **Lecturer*** to gain clarification of the changes that have been made. IF clarity of the changes that have been made has been found then, **Changes Clarification Discussion** == CLARITY FOUND IF clarity of the changes that have been made has NOT been found then, **Changes Clarification Discussion** == CLARITY NOT FOUND
	Create and update personal Module X Tracking Changes Document		
23	IF **Changes Clarification Discussion** == CLARITY FOUND OR IF **Noticeable Changes Check** == CLEAR OR IF **Module X Documentation Updated by AMR Owner** ≠ null AND IF **Module X Tracking Changes Document** == null	<Create **Module X Tracking Changes Document**> AND <Update the **Module X Tracking Changes Document** with the **Module X Documentation Updated by AMR Owner**> OR (EXECUTE BOTH ACTIONS IF POSSIBLE) <Update the **Module X Tracking Changes Document** with **Updated Module X Documentation**>	The **Module X Tracking Changes Document** is a Word Document that is used just by the **AMR Owner**. The **AMR Owner** updates the **Module X Tracking Changes Document** by collating just the proposed changes to the **Module X Documentation Updated by AMR Owner** and just the changes to the **Updated Module X Documentation**, not all the information in that module documentation. The **AMR Owner** updates the **Module X Tracking Changes Document** with those collated changes.
	Upload proposed Module X changes to the Shared S Drive		
24	IF **Module X Tracking Changes Document** ≠ null AND IF **Module X Documentation Updated by AMR Owner** ≠ null AND IF DATE > **Lecturer Deadline Date**	<Generate **Final Module X Changes**> AND <Update **Final Module X Changes** with **Module X Documentation Updated by AMR Owner**> AND <Upload **Final Module X Changes** to **Shared S Drive**>	**AMR Owner** uploads the **Module X Documentation Updated by AMR Owner** to the **Shared S Drive** which the entire School can access.

Upload proposed Module X changes to the Shared S Drive
25	IF **Module X Tracking Changes Document** ≠ null AND IF **Updated Module X Documentation** ≠ null AND IF DATE > **Lecturer Deadline Date**	<Generate **Final Module X Changes**> AND <Update **Final Module X Changes** with **Updated Module X Documentation**> AND <Upload **Final Module X Changes** to **Shared S Drive**>	**AMR Owner** uploads the **Updated Module X Documentation** to the **Shared S Drive** which the entire School can access.
Notify the Board of Studies to prepare for Board of Studies meeting
26	IF DATE == 7 days before **Board of Studies Date** AND IF **Board of Studies Preparation Notification** == null	<Generate **Board of Studies Preparation Notification**> AND <Send **Board of Studies Preparation Notification** to **Board of Studies**>	**AMR Owner** notifies (**Board of Studies Preparation Notification**) the **Board of Studies** which includes everyone involved in the meeting, that all proposed **Module X** changes and enhancements can be found on the **Shared S Drive**. The **Board of Studies** is expected to read through the documentation and prepare for the **Board of Studies** meeting.
Upload Board of Studies approved Module changes to SIMS
27	IF **Board of Studies Module X Check** == PASS OR IF **Final Module X Changes** have been updated with **BoS Correction**	<Update **Module X Tracking Changes Document** with **Final Module X Changes**> AND <Upload **Module X Tracking Changes** to SIMS>	**AMR Owner** uploads all **Board of Studies** approved Module changes onto the **Student Information Management System** using the collated Module changes file – **Module X Tracking Changes Document**.

Lecturer*
#	Condition	Action / Task	Note
Identify the proposed Module X Changes for Module X review
	IF **Lecturer Deadline Date Notification** is	<Generate **Module X Changes**>	**Lecturer*** identifies the proposed **Module X Changes** they want to make to **Module X** and if applicable

28	received from **AMR Owner** OR IF **Top-Down Driver Lecturer* Notification** is received from **AMR Owner** AND **Lecturer*** teaches **Module X** AND **Module X Changes** == null AND IF Date <= **Lecturer Deadline Date**		take into account and apply the top-down drivers which were outlined by the **AMR Owner** (**Top-Down Driver Lecturer* Notification**).
	Notify AMR Owner of proposed Module X Changes		
29	IF **Module X Changes** ≠ null AND IF Date <= **Lecturer Deadline Date** AND **Module X Changes Notification** == null	<Generate **Module X Changes Notification**> AND <Add **Module X Changes** to **Module X Changes Notification**> AND <Send **Module X Changes Notification** to **AMR Owner**>	The **Lecturer*** sends a notification of their proposed **Module X Changes** to the **AMR Owner**.
	Enable 'Tracking Changes' on Microsoft Word		
30	IF **Module X Documentation Notification** is received from **AMR Owner**	<Open **Module X Documentation** in Microsoft Word> AND <Enable 'Tracking Changes' on Microsoft Word within the **Module X Documentation** file>	As instructed by the **AMR Owner** in the **Module X Documentation Notification**, the **Lecturer*** enables the 'Tracking Changes' on the **Module X Documentation** within Microsoft Word.
	Document proposed Module X Changes and update the Module X Documentation		
31	IF 'Tracking Changes' == Enabled AND IF **Updated Module X Documentation** == null	<Update **Module X Documentation** with **Module X Changes**> AND <Generate **Updated Module X Documentation**>	**Lecturer*** updates the **Module X Documentation** with the **Lecturer* Module X Changes**. The **Updated Module X Documentation** contains the **Module X Documentation** which has been updated with the **Module X Changes** by the **Lecturer***
	Notify and send AMR Owner the Updated Module X Documentation		

#	Condition	Action / Task	Note
32	IF **Updated Module X Documentation** ≠ null AND IF **Updated Module X Documentation Notification** == null	<Generate **Updated Module X Documentation Notification**> AND <Add the **Updated Module X Documentation** to the **Updated Module X Documentation Notification**> AND <Send the **Updated Module X Documentation Notification** to the **AMR Owner**>	The **Lecturer*** creates an email notification (**Updated Module X Documentation Notification**) which includes the **Updated Module X Documentation**. The **Updated Module X Documentation Notification** also includes details to the **AMR Owner** of what the **Lecturer*** changed, but this should be easily visible as 'Tracking Changes' were enabled before the proposed **Module X Changes** were documented and updated.
		Discussion with AMR Owner to provide clarity to changes made to Module X Documentation	
33	IF **Changes Clarification Discussion** ≠ null	<Engage in **Changes Clarification Discussion** with **AMR Owner**>	**AMR Owner** decides that it is difficult to understand what changes have been made to the **Updated Module X Documentation**, and the changes are not immediately obvious. As a result, the **AMR Owner** engages in a conversation and discussion (**Changes Clarification Discussion**) with the **Lecturer*** to gain clarification of the changes that have been made. IF clarity of the changes that have been found then, **Changes Clarification Discussion** == CLARITY FOUND IF clarity of the changes that have been made has NOT been found then, **Changes Clarification Discussion** == CLARITY NOT FOUND

NOTE: Lecturers, AMR Owner and DoT are all members of the Board of Studies

	Board of Studies (BoS)		
#	**Condition**	**Action / Task**	**Note**
	Prepare for Board of Studies Meeting		
34	IF **Board of Studies Preparation Notification** is received from **AMR Owner**	<Access the **Shared S Drive**> AND <Read **Final Module X Changes** on the **Shared S Drive**>	As instructed by the **AMR Owner**, the **Board of Studies** members prepare for the **Board of Studies** meeting in a week's time.
	Board of Studies Meeting takes place		

35	IF **Board of Studies Date Notification** is received from **DoT** AND IF DATE == **Board of Studies Date** AND IF **Board of Studies Meeting** == null	<Generate **Board of Studies Meeting** session>	Host **Board of Studies Meeting** If **Board of Studies Meeting** is taking place then, **Board of Studies Meeting** ≠ null
	Check all proposed Module changes are satisfactory		
36	IF **Board of Studies Meeting** ≠ null AND IF **Board of Studies Module X Check** == null	<Generate **Board of Studies Module X Check**> AND <Apply **Board of Studies Module X Check** against **Final Module X Changes**>	All members of the **Board of Studies** check that the proposed **Final Module X Changes** by the **Lecturer*** are satisfactory under School and College policy as well as within the AMR process module change guidelines IF the **Final Module X Changes** are satisfactory then, **Board of Studies Module X Check** == PASS IF the **Final Module X Changes** are NOT satisfactory then, **Board of Studies Module X Check** == FAIL
	Add correction to proposed Module change		
37	IF **Board of Studies Module X Check** == FAIL AND IF **BoS Correction** == null	<Generate **BoS Correction**> AND <Update **Final Module X Changes** on **Shared S Drive** with **BoS Correction**>	When the **Board of Studies** identify an issue, the **Board of Studies** apply a correction and update the documentation on the **Shared S Drive** to reflect that change.

There is a total of 37 business rules for the Mathematics Annual Module Review process.

Appendix K: Governance and Diligence Oriented – Business Rules

#	Condition	Action / Task	Note
Collaboration Leader (CL)			
	#	**Condition**	**Action / Task**	**Note**
Strategic Objectives and Initiatives Discussion			
01	IF month == September AND IF **Strategic Discussion** == null	<Generate **Strategic Discussion** with **MDoT** and **CSDoT**>	*Collaboration Leader* reaches out to the *Mathematics' Director of Teaching* and the *Computer Science's Director of Teaching* to discuss strategic objectives of AMR process. These discussions may outline the additional data and supplement information which can be collected from the *Lecturer**.
AMR Owner Process Planning			
02	IF **AMR Plan Discussion** == null AND **AMR Execution Plan** == null	<Generate **AMR Plan Discussion** with **MAMR Owner** and **CSAMR Owner**> AND <Generate **AMR Execution Plan**>	*Collaboration Leader* reaches out to the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* to plan the AMR process for the academic year in the form of an *AMR Execution Plan*.
Review AMR Execution Plan			
03	IF **Module Changes Deadline Notification** is received from **UR** AND IF **AMR Execution Plan Review Discussion** == null	<Generate **AMR Execution Plan Review Discussion** with **CSAMR Owner** and **MAMR Owner**> AND <Update **AMR Execution Plan** with **Module Changes Deadline Date**>	The *Collaboration Leader*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* review the *AMR Execution Plan* and updates the *AMR Execution Plan* with the *Module Changes Deadline Date* from the *University Registry*.
Generate Lecturer Deadline Date			
04	IF **AMR Execution Plan Review Discussion** ≠ null AND IF **Lecturer Deadline Date** == null	<Generate **Lecturer Deadline Date** with the **MAMR Owner** and **CSAMR Owner**>	The *Collaboration Leader, Computer Science's AMR Owner* and the *Mathematics' AMR Owner* find a date in which all the *Lecturers* within the School of Computer Science and Informatics and the School of Mathematics must input and update the relevant module documentation with their proposed module changes.
Confirm that Major Change has been found with AMR Owner and Director of Teaching			

05	IF **Major Change Agreement Discussion** ≠ null AND IF **Major Change Consensus** == null	<Engage in **Major Change Agreement Discussion** with **MAMR Owner** / **CSAMR Owner** and **MDoT** / **CSDoT**> AND <Generate **Major Change Consensus** with **MAMR Owner** / **CSAMR Owner** and **MDoT** / **CSDoT**>	Collaboration Leader works with the respective AMR Owner and Director of Teaching to verify and confirm that a Major Change has been found among the proposed module changes by the Lecturer* If there is agreement that a Major Change has been found, then **Major Change Consensus** == AGREE If there is NOT an agreement that a Major Change has been found, then **Major Change Consensus** == DISAGREE
<td colspan="3" style="background:green;color:white">**Instruct AMR Owners to request Lecturers to verify they are happy with their proposed changes**</td>
06	IF **Document Module Changes Concluded Notification** is received from **CSAMR Owner** AND IF **Document Module Changes Concluded Notification** is received from **MAMR Owner** AND IF **Request Satisfaction Check** == null	<Generate **Request Satisfaction Check**> AND <Send **Request Satisfaction Check** to **CSAMR Owner** and **MAMR Owner**>	*Collaboration Leader* requests the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* to reach out to their *Lecturers* within the School of Computer Science and Informatics the School of Mathematics, to conduct a final check that they are satisfied with the changes they have proposed for their modules for that academic year.
<td colspan="3" style="background:green;color:white">**First synchronisation meeting with process' Leadership team**</td>
07	IF DATE == **Satisfaction Confirmation Deadline** AND IF **First Sync. Meeting** == null	<Generate **First Sync. Meeting** with **CSAMR Owner**, **CSDoT**, **MAMR Owner** and **MDoT**>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process

Set Computer Science's Student Staff Panel Meeting Date			
08	IF month == January AND IF **SSP Meeting Date Discussion** == null AND IF **CS SSP Meeting Date** == null	`<Generate `**`SSP Meeting Discussion`**` with `**`CSDoT`**`>` AND `<Generate `**`CS SSP Meeting Date`**`>`	The *Collaboration Leader* works with the *Computer Science's Director of Teaching* to identify a date suitable for the *Computer Science's Student Staff Panel* meeting.
Notify Computer Science's Student Staff Panel of meeting date			
09	IF **CS SSP Meeting Date** ≠ null AND IF **CS SSP Meeting Date Notification** == null	`<Generate `**`CS SSP Meeting Date Notification`**`>` AND `<Update `**`CS SSP Meeting Date Notification`**` with `**`CS Meeting Date`**`>` AND `<Send `**`CS SSP Meeting Date to CSSSP`**`>`	*Collaboration Leader* notifies the *Computer Science's Student Staff Panel* of planned meeting date.
Set Mathematics' Student Staff Panel Meeting Date			
10	IF month == January AND IF **SSP Meeting Date Discussion** == null AND IF **M SSP Meeting Date** == null	`<Generate `**`SSP Meeting Discussion`**` with `**`MDoT`**`>` AND `<Generate `**`M SSP Meeting Date`**`>`	The *Collaboration Leader* works with the *Mathematics' Director of Teaching* to identify a date suitable for the *Computer Science's Student Staff Panel* meeting.
Notify Mathematics' Student Staff Panel of meeting date			
11	IF **M SSP Meeting Date** ≠ null AND IF **M SSP Meeting Date Notification** == null	`<Generate `**`M SSP Meeting Date Notification`**`>` AND `<Update `**`M SSP Meeting Date Notification`**` with `**`M Meeting Date`**`>` AND `<Send `**`M SSP Meeting Date to MSSP`**`>`	*Collaboration Leader* notifies the *Mathematics' Student Staff Panel* of planned meeting date.
Collate all SSP approved module changes			
12	IF **C SSP** has concluded AND IF **M SSP** has concluded AND IF **SSP Approved Module Changes** == null	`<Extract `**`Module X Documentation`**` and copy module changes into `**`SSP Approved Module Changes`**`>`	*Collaboration Leader* extracts all approved *Computer Science's Student Staff Panel* module changes and *Mathematics' Student Staff Panel* module changes.

			The extracted changes are copied into a new document called *SSP Approved Module Changes*
	Setup Learning Central Page		
13	IF **SSP Approved Module Changes** ≠ null AND IF **Learning Central Page** == null	`<Setup Learning Central Page>`	*Collaboration Leaders* sets up a *Learning Central Page*
	Upload SSP approved module changes onto Learning Central Page		
14	IF **Learning Central Page** ≠ null	`<Upload SSP Approved Module Changes onto Learning Central Page>`	*Collaboration Leader* uploads all *SSP Approved Module Changes* onto the *Learning Central Page*. All *Students* from the School of Computer Science and Informatics and the School of Mathematics will be able to view the *SSP Approved Module Changes*.
	Request AMR Owners to reach out to Student* cohorts to informally review module changes		
15	IF **Learning Central Page** has been uploaded with **SSP Approved Module Changes** AND IF **Student Cohort Reach Out Request** == null AND IF **Informal Student Feedback Deadline** == null	`<Generate Student Cohort Reach Out Request>` AND `<Generate Informal Student Feedback Deadline>` AND `<Update Student Cohort Reach Out Request with Informal Student Feedback Deadline>` AND `<Send Student Cohort Reach Out Request to CSAMR Owner and MAMR Owner>`	*Collaboration Leader* requests the *Computer Science's AMR Owner* and *Mathematics' AMR Owner* to request all *Student** year groups and cohorts to informally review the *SSP Approved Module Changes* on the *Learning Central Page*. The *Student** cohorts and year groups have until the *Informal Student Feedback Deadline* to respond with informal feedback.
	Acknowledge and review informal student feedback		
16	IF **Received Informal Student Feedback** is received from **CSAMR Owner / MAMR Owner**	`<Acknowledge the Received Informal Student Feedback>`	*Collaboration Leader* acknowledges the informal student feedback received based on the *SSP Approved Module Changes* on the *Learning Central Page*.
	Second synchronisation meeting with process' Leadership team		
	IF DATE == **Informal Student Feedback Deadline**	`<Generate Second Sync. Meeting with CSAMR Owner,`	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR*

17	AND IF **Second Sync. Meeting** == null	**CSDoT, MAMR Owner** and **MDoT>**	*Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
Set Computer Science's Board of Studies meeting date			
18	IF month == January AND IF **BoS Date Discussion** == null AND IF **CS BoS Date** == null	<Generate **BoS Date Discussion** with **CSDoT**> AND <Generate **CS BoS Date**>	*Collaboration Leader* works with the *Computer Science's Director of Teaching* to identify a date for the *Computer Science's Board of Studies* meeting to commence.
Notify Computer Science's Board of Studies of meeting date			
19	IF **CS BoS Date** ≠ null AND IF **CS BoS Date Notification** == null	<Generate **CS BoS Date Notification**> AND <Update **CS BoS Date Notification** with **CS BoS Date**> AND <Send **CS BoS Date Notification** to **CSBoS**>	*Collaboration Leader* notifies the *Computer Science's Board of Studies* of the planned date in which the *Computer Science's Board of Studies* meeting will take place.
Set Mathematics' Board of Studies meeting date			
20	IF month == January AND IF **BoS Date Discussion** == null AND IF **M BoS Date** == null	<Generate **BoS Date Discussion** with **MDoT**> AND <Generate **M BoS Date**>	*Collaboration Leader* works with the *Mathematics' Director of Teaching* to identify a date for the *Mathematics' Board of Studies* meeting to commence.
Notify Mathematics' Board of Studies of meeting date			
21	IF **M BoS Date** ≠ null AND IF **M BoS Date Notification** == null	<Generate **M BoS Date Notification**> AND <Update **M BoS Date Notification** with **M BoS Date**> AND <Send **M BoS Date Notification** to **MBoS**>	*Collaboration Leader* notifies the *Mathematics' Board of Studies* of the planned date in which the *Mathematics' Board of Studies* meeting will take place.
Third synchronisation meeting with process' Leadership team			

22	IF DATE > `M BoS Date` AND IF `Third Sync. Meeting` == null	<Generate `Third Sync. Meeting` with `CSAMR Owner`, `CSDoT`, `MAMR Owner` and `MDoT`>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
Collate Office and Administration Data Input List
23	IF `Third Sync. Meeting` has concluded AND IF `O&A Data Input List` == null	<Extract module changes from `Module X Documentation` on `Microsoft OneDrive`> AND <Generate `O&A Data Input List`> AND <Update `O&A Data Input List` with the extracted module changes from `Module X Documentation` on `Microsoft OneDrive`>	*Collaboration Leader* extracts all Board of Studies approved modules changes for the School of Computer Science and Informatics and the School of Mathematics from the relevant module documentation on *Microsoft OneDrive*. The extracted Board of Studies approved module changes are copied and collated to the *O&A Data Input List*.
Notify Office & Administration Team to complete Data Inputting and upload
24	IF `O&A Data Input List` ≠ null AND IF `O&A Complete Data Upload Notification` == null	<Generate `O&A Complete Data Upload Notification`> AND <Add `O&A Data Input List` to `O&A Complete Data Upload Notification`> AND <Send `O&A Complete Data Upload Notification` to `O&A Team`>	*Collaboration Leader* notifies the *Office and Administration Team* to upload the Board of Studies approved module changes into *SIMS*.
Update all other mediums which do not pull data automatically from SIMS
25	IF `Data Upload Completion Notification` is received from the `O&A Team` AND	<Generate `Other Mediums Update`> AND <Apply `Other Mediums Update` to all platforms which do not pull data from `SIMS`>	*Collaboration Leader* updates all other mediums and platforms with the new approved module changes which do not automatically update from pulling data from *SIMS*.

#	Condition	Action / Task	Note
	IF **Other Mediums Update** == null		
Request Directors of Teaching to reach out for process improvement ideas
26	IF **Other Mediums Update** has been applied to all platforms which do not pull data from **SIMS** AND IF **Process Improvement Feedback Deadline** == null AND IF **Process Improvement Reach Out** == null	<Generate **Process Improvement Feedback Deadline**> AND <Generate **Process Improvement Reach Out**> AND <Add **Process Improvement Feedback Deadline** to **Process Improvement Reach Out**> AND <Send **Process Improvement Reach Out** to **CSDoT** and **MDoT**>	*Collaboration Leader* requests the *Computer Science's Director of Teaching* and the *Mathematics' Director of Teaching* to reach out to the *Lecturers* within their individual Schools and ask for feedback which could help improve the AMR process for the next academic year. *Lecturers* need to send their feedback to the *Directors of Teaching* by the *Process Improvement Feedback Deadline*
Leadership team process improvement meeting and discussion
27	IF DATE == **Process Improvement Feedback Deadline** AND IF **Process Improvement Discussion** == null	<Generate **Process Improvement Discussion** with **CSDoT**, **MDoT**, **CSAMR Owner** and **MAMR Owner**>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet to discuss process improvement ideas based on feedback to ensure the AMR process improves both efficiently and effectively for the following academic year
Update AMR Process documentation to reflect process improvements
28	IF **Process Improvement Discussions** concluded AND IF **AMR Process Documentation Improvement** == null	<Generate **AMR Process Documentation Update**> AND <Update AMR Process Documentation with **AMR Process Documentation Improvement**>	*Collaboration Leader* updates all AMR Process documentation to ensure it accurately reflects the AMR Process with the new process improvements applied which were discussed and implemented through feedback.

Mathematics' Director of Teaching (MDoT)
#	Condition	Action / Task	Note
Strategic Objectives and Initiatives Discussion

29	IF **Strategic Discussion** ≠ null	<Engage in **Strategic Discussion** with **CL** and **CSDoT**>	The *Mathematics' Director of Teaching* discusses with the *Collaboration Leader* and the *Computer Science's Director of Teaching* the strategic initiatives and objectives of the School of Mathematics, to understand how the AMR process can support those objectives and initiatives. These discussions may outline the additional data and supplement information which can be collected from the *Lecturer**.
Set Mathematics' Student Staff Panel Meeting Date		
30	IF **SSP Meeting Date Discussion** ≠ null AND IF **M SSP Meeting Date** == null	<Engage in **SSP Meeting Discussion** with **CL**> AND <Generate **M SSP Meeting Date**>	The *Collaboration Leader* works with the *Mathematics' Director of Teaching* to identify a date suitable for the *Mathematics' Student Staff Panel* meeting.
Help AMR Owner decide if there is missing information from module(s) documentation		
31	IF **DoT Second Opinion Discussion** ≠ null AND IF **DoT Opinion** == null	<Engage in **DoT Second Opinion Discussion** with **MAMR Owner**> AND <Generate **DoT Opinion** for **MAMR Owner**>	The *Mathematics' Director of Teaching* has been requested by the *Mathematics' AMR Owner* to provide a second opinion as to whether or not there is missing information from the updated module documentation, that was expected to be included by the *Lecturer** If the *Director of Teaching* agrees with the *AMR Owner*, that there is missing information which was expected, then **DoT Opinion** == AGREE If the *Director of Teaching* disagrees with the *AMR Owner*, that there is NOT missing information which was expected, then **DoT Opinion** == DISAGREE
Confirm that Major Change has been found with AMR Owner and Collaboration Leader		
	IF **Major Change Agreement Discussion** ≠ null	<Engage in **Major Change Agreement Discussion** with **MAMR Owner** and **CL**>	The *Mathematics' Director of Teaching* works with the *Mathematics' AMR Owner* and

32	AND IF **Major Change Consensus** == null	AND **<Generate Major Change Consensus** with **MAMR Owner** and **CL>**	*Collaboration Leader* to confirm and verify that a Major Change has been found among the proposed module changes by a *Lecturer** If there is agreement that a Major Change has been found, then **Major Change Consensus** == AGREE If there is NOT an agreement that a Major Change has been found, then **Major Change Consensus** == DISAGREE
<td colspan="4" align="center">**First synchronisation meeting with process' Leadership team**</td>
33	IF DATE == **Satisfaction Confirmation Deadline** AND IF **First Sync. Meeting** ≠ null	**<Engage in First Sync. Meeting** with **CSAMR Owner**, **CSDoT**, **MAMR Owner** and **CL>**	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
<td colspan="4" align="center">**Identify solution to raised SSP concern or feedback**</td>
34	IF **M SSP Check** == CONCERN FOUND AND IF **M SSP Solution Discussion** == null AND IF **M SSP Solution** == null	**<Generate M SSP Solution Discussion** with **MAMR Owner** and **Lecturer*>** AND **<Generate M SSP Solution>**	*Mathematics' Director of Teaching, Computer Science's AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised student concern or feedback from the *Mathematics' Student Staff Panel* meeting.
<td colspan="4" align="center">**Acknowledge and review informal student feedback**</td>
35	IF **Received Informal Student Feedback** is received from **MAMR Owner**	**<Acknowledge the Received Informal Student Feedback>**	*Mathematics' Director of Teaching* acknowledges the informal student feedback received based on the *SSP Approved Module Changes* on the *Learning Central Page*.
<td colspan="4" align="center">**Second synchronisation meeting with process' Leadership team**</td>

36	IF DATE == **Informal Student Feedback Deadline** AND IF **Second Sync. Meeting** ≠ null	<Engage in **Second Sync. Meeting** with **CSAMR Owner**, **CSDoT**, **MAMR Owner** and **CL**>	The leadership team of the process which includes the *Mathematics' AMR Owner*, *Computer Science's AMR Owner*, *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
Identify solution to raised BoS concern or feedback
37	IF **M BoS Check** == CONCERN FOUND AND IF **M BoS Solution Discussion** == null AND IF **M BoS Solution** == null	<Generate **CS BoS Solution Discussion** with **MAMR Owner** and **Lecturer***> AND <Generate **M BoS Solution**>	*Mathematics' Director of Teaching*, *Mathematics' AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised concern or feedback from the *Mathematics' Board of Studies* meeting.
Set Computer Science's Board of Studies meeting date
38	IF **BoS Date Discussion** ≠ null AND IF **M BoS Date** == null	<Engage in **BoS Date Discussion** with **CL**> AND <Generate **M BoS Date**>	*Collaboration Leader* works with the *Mathematics' Director of Teaching* to identify a date for the *Mathematics' Board of Studies* meeting to commence.
Third synchronisation meeting with process' Leadership team
39	IF **Third Sync. Meeting** ≠ null	<Engage in **Third Sync. Meeting** with **CSAMR Owner**, **CSDoT**, **MAMR Owner** and **CL**>	The leadership team of the process which includes the *Mathematics' AMR Owner*, *Computer Science's AMR Owner*, *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
Request Lecturers to provide process improvement feedback
40	IF **Process Improvement Reach Out** is received from **CL** AND	<Generate **Lecturer Feedback Notification**> AND <Add **Process Improvement Feedback Deadline** to	*Mathematics' Director of Teaching* reaches out to the *Lecturers* within the School of Mathematics to collect feedback on how the AMR process

	IF **Lecturer Feedback Notification** == null	**Lecturer Feedback Notification**> AND <Send **Lecturer Feedback Notification** to **Lecturer***>	could be improved for the next academic year.
Acknowledge process improvement ideas from Lecturer*			
41	IF **Process Improvement Ideas** is received from **Lecturer***	<Acknowledge and record the **Process Improvement Ideas**>	*Mathematics' Director of Teaching* acknowledges and records the *Lecturer's Process Improvement Ideas* which will be used as part of improvement discussions with the process' leadership team
Leadership team process improvement meeting and discussion			
42	IF DATE == **Process Improvement Feedback Deadline** AND IF **Process Improvement Discussion** ≠ null	<Engage in **Process Improvement Discussion** with **CSDoT**, **CL**, **CSAMR Owner** and **MAMR Owner**> AND <Apply **Process Improvement Ideas** to **Process Improvement Discussion**>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet to discuss process improvement ideas based on feedback to ensure the AMR process improves both efficiently and effectively for the following academic year

Computer Science's Director of Teaching (CSDoT)			
#	Condition	Action / Task	Note
Strategic Objectives and Initiatives Discussion			
43	IF **strategic discussion** ≠ null	<Engage in **Strategic Discussion** with **CL** and **MDoT**>	The *Computer Science's Director of Teaching* discusses with the *Collaboration Leader* and the *Mathematics' Director of Teaching* the strategic initiatives and objectives of the School of Computer Science and Informatics, to understand how the AMR process can support those objectives and initiatives. These discussions may outline the additional data and supplement information which can be collected from the *Lecturer*.

	Set Computer Science's Student Staff Panel Meeting Date		
44	IF **SSP Meeting Date Discussion** ≠ null AND IF **CS SSP Meeting Date** == null	<Engage in **SSP Meeting Discussion** with **CL**> AND <Generate **CS SSP Meeting Date**>	The *Collaboration Leader* works with the *Computer Science's Director of Teaching* to identify a date suitable for the *Computer Science's Student Staff Panel* meeting.
	Help AMR Owner decide if there is missing information from module(s) documentation		
45	IF **DoT Second Opinion Discussion** ≠ null AND IF **DoT Opinion** == null	<Engage in **DoT Second Opinion Discussion** with **CSAMR Owner**> AND <Generate **DoT Opinion** for **CSAMR Owner**>	The *Computer Science's Director of Teaching* has been requested by the *Computer Science's AMR Owner* to provide a second opinion as to whether or not there is missing information from the updated module documentation, that was expected to be included by the *Lecturer** If the *Director of Teaching* agrees with the *AMR Owner*, that there is missing information which was expected, then **DoT Opinion** == AGREE If the *Director of Teaching* disagrees with the *AMR Owner*, that there is NOT missing information which was expected, then **DoT Opinion** == DISAGREE
	Confirm that Major Change has been found with AMR Owner and Collaboration Leader		
46	IF **Major Change Agreement Discussion** ≠ null AND IF **Major Change Consensus** == null	<Engage in **Major Change Agreement Discussion** with **CSAMR Owner** and **CL**> AND <Generate **Major Change Consensus** with **CSAMR Owner** and **CL**>	The *Computer Science's Director of Teaching* works with the *Computer Science's AMR Owner* and *Collaboration Leader* to confirm and verify that a Major Change has been found among the proposed module changes by a *Lecturer** If there is agreement that a Major Change has been found, then **Major Change Consensus** == AGREE If there is NOT an agreement that a Major Change has been found, then

			Major Change Consensus == DISAGREE
	First synchronisation meeting with process' Leadership team		
47	IF DATE == **Satisfaction Confirmation Deadline** AND IF **First Sync. Meeting** ≠ null	<Engage in **First Sync. Meeting** with **CSAMR Owner**, **MDoT**, **MAMR Owner** and **CL**>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
	Identify solution to raised SSP concern or feedback		
48	IF **CS SSP Check** == CONCERN FOUND AND IF **CS SSP Solution Discussion** == null AND IF **CS SSP Solution** == null	<Generate **CS SSP Solution Discussion** with **CSAMR Owner** and **Lecturer***> AND <Generate **CS SSP Solution**>	*Computer Science's Director of Teaching, Computer Science's AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised student concern or feedback from the *Computer Science's Student Staff Panel* meeting.
	Acknowledge and review informal student feedback		
49	IF **Received Informal Student Feedback** is received from **CSAMR Owner**	<Acknowledge the **Received Informal Student Feedback**>	*Computer Science's Director of Teaching* acknowledges the informal student feedback received based on the *SSP Approved Module Changes* on the *Learning Central Page*.
	Second synchronisation meeting with process' Leadership team		
50	IF DATE == **Informal Student Feedback Deadline** AND IF **Second Sync. Meeting** ≠ null	<Engage in **Second Sync. Meeting** with **CSAMR Owner**, **MDoT**, **MAMR Owner** and **CL**>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
	Set Computer Science's Board of Studies meeting date		
51	IF **BoS Date Discussion** ≠ null	<Engage in **BoS Date Discussion** with **CL**>	*Collaboration Leader* works with the *Computer Science's Director of*

	AND IF **CS BoS Date** == null	AND **<Generate CS BoS Date>**	*Teaching* to identify a date for the *Computer Science's Board of Studies* meeting to commence.
Identify solution to raised BoS concern or feedback		
52	IF **CS BoS Check** == CONCERN FOUND AND IF **CS BoS Solution Discussion** == null AND IF **CS BoS Solution** == null	**<Generate CS BoS Solution Discussion** with **CSAMR Owner** and **Lecturer*>** AND **<Generate CS BoS Solution>**	*Computer Science's Director of Teaching, Computer Science's AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised concern or feedback from the *Computer Science's Board of Studies* meeting.
Third synchronisation meeting with process' Leadership team		
53	IF **Third Sync. Meeting** ≠ null	**<Engage in Third Sync. Meeting** with **CSAMR Owner**, **MDoT**, **MAMR Owner** and **CL>**	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
Request Lecturers to provide process improvement feedback		
54	IF **Process Improvement Reach Out** is received from **CL** AND IF **Lecturer Feedback Notification** == null	**<Generate Lecturer Feedback Notification>** AND **<Add Process Improvement Feedback Deadline** to **Lecturer Feedback Notification>** AND **<Send Lecturer Feedback Notification** to **Lecturer*>**	*Mathematics' Director of Teaching* reaches out to the *Lecturers* within the School of Mathematics to collect feedback on how the AMR process could be improved for the next academic year.
Acknowledge process improvement ideas from Lecturer*		
55	IF **Process Improvement Ideas** is received from **Lecturer***	**<Acknowledge and record the Process Improvement Ideas>**	*Computer Science's Director of Teaching* acknowledges and records the *Lecturer's Process Improvement Ideas* which will be used as part of improvement discussions with the process' leadership team
Leadership team process improvement meeting and discussion		

#	Condition	Action / Task	Note
56	IF DATE == **Process Improvement Feedback Deadline** AND IF **Process Improvement Discussion** ≠ null	`<Engage in Process Improvement Discussion with MDoT, CL, CSAMR Owner and MAMR Owner>` AND `<Apply Process Improvement Ideas to Process Improvement Discussion>`	The leadership team of the process which includes the *Mathematics' AMR Owner*, *Computer Science's AMR Owner*, *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching* and *Collaboration Leader* meet to discuss process improvement ideas based on feedback to ensure the AMR process improves both efficiently and effectively for the following academic year

Mathematics' AMR Owner (MAMR Owner)			
#	**Condition**	**Action / Task**	**Note**
AMR Owner Process Planning			
57	IF **AMR Plan Discussion** ≠ null AND **AMR Execution Plan** == null	`<Engage in AMR Plan Discussion with CL and CSAMR Owner>` AND `<Generate AMR Execution Plan>`	*Mathematics' AMR Owner* engages in discussion and planning with the *Collaboration Leader* and the *Computer Science's AMR Owner* to understand how to manage the execution of the process within the School of Mathematics through the creation of the *AMR Execution Plan*.
Check if Strategic Objectives could affect potentially proposed module changes by the Lecturer*			
58	IF **AMR Execution Plan** ≠ null AND IF **Strategic Objectives Check ==** null	`<Generate Strategic Objectives Check>` AND `<Apply Strategic Objectives Check against List of Modules>`	The *Mathematics' AMR Owner* checks that based on the *AMR Execution Plan* which has been driven by strategic objectives and initiatives outlined by the *Mathematics' Director of Teaching* and the *Computer Science's Director of Teaching* through the *Collaboration Leader*, if there are any specific modules and relevant *Lecturer** whose potential proposed module changes may be affected significantly as a result. If no modules are significantly affected as a result of the strategic objectives, then **Strategic Objectives Check** == No Effect

			If modules are significantly affected as a result of the strategic objectives, then **`Strategic Objectives Check`** == Effected
	Strategic Objectives have no effect on potentially proposed module changes		
59	IF **`Strategic Objectives Check`** == No Effect	<Do Nothing>	No further action is required.
	Strategic Objectives have an effect on potentially proposed module changes		
60	IF **`Strategic Objectives Check`** == Effected	<Identify relevant **`Lecturer*`** responsible for the affected module>	*Mathematics' AMR Owner* identifies the relevant *Lecturer** who is responsible for the module(s) which are likely to affect potential proposed module changes due to the strategic objectives and initiatives outlined by the *Mathematics' Director of Teaching*.
	Notify relevant Lecturer* so they can prepare for when they proposed module changes		
61	IF **`MAMR Owner`** identified relevant **`Lecturer*`** AND IF **`Strategic Objectives Impact Notification`** == null	<Generate **`Strategic Objectives Impact Notification`**> AND <Send **`Strategic Objectives Impact Notification`** to **`Lecturer*`**>	*Mathematics' AMR Owner* notifies the relevant *Lecturer** of their module(s) which are affected by the strategic objectives and initiatives outlined by the *Mathematics' Director of Teaching*. As a result, warning the *Lecturer** so they can take those objectives and initiatives into account when proposing their module changes and enhancements.
	Review AMR Execution Plan		
62	IF **`Module Changes Deadline Notification`** is received from **`UR`** AND IF **`AMR Execution Plan Review Discussion`** ≠ null	<Engage in **`AMR Execution Plan Review Discussion`** with **`CL`** and **`CSAMR Owner`**> AND <Update **`AMR Execution Plan`** with **`Module Changes Deadline Date`**>	The *Collaboration Leader*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* review the *AMR Execution Plan* and updates the *AMR Execution Plan* with the *Module Changes Deadline Date* from the *University Registry*.
	Generate Lecturer Deadline Date		
63	IF **`AMR Execution Plan Review Discussion`** ≠ null AND	<Generate **`Lecturer Deadline Date`** with the **`CL`** and **`CSAMR Owner`**>	The *Collaboration Leader, Computer Science's AMR Owner* and the *Mathematics' AMR Owner* find a date in which all the *Lecturers* within the School of Computer Science and

	IF **Lecturer Deadline Date** == null		Informatics and the School of Mathematics must input and update the relevant module documentation with their proposed module changes.
Notify Lecturer* to review their modules		
64	IF **Lecturer Deadline Date** ≠ null AND IF **Begin Review Notification** == null	<Generate **Begin Review Notification**> AND <Update **Begin Review Notification** with **Lecturer Deadline Date**> AND <Send **Begin Review Notification** to **Lecturer***>	The *Mathematics' AMR Owner* notifies the *Lecturers* within the School of Mathematics to begin their annual module review process. The notification contains the *Lecturer Deadline Date* which explicitly states the date by which the *Lecturer** must input their proposed module changes and update their module documentation. The notification will also outline all information expected from the *Lecturer**.
Missing information test against updated module(s) documentation		
65	IF **Module Update Completion Notification** is received from **Lecturer*** AND IF **Missing Information Test** == null	<Generate **Missing Information Test**> AND <Apply **Missing Information Test** against **Module X Documentation** on **Microsoft OneDrive**>	The *Mathematics' AMR Owner* checks the updated module(s) documentation on *Microsoft OneDrive*, to ensure that the module documentation is not missing any information or data that was expected based on the instructions in the *Begin Review Notification (MAMR Owner)*. If all expected information has been provided by the Lecturer* when they updated their module documentation, then **Missing Information Test** == PASS If NOT all expected information has been provided by the Lecturer* when they updated their module documentation, then **Missing Information Test** == FAIL
Is a second opinion required from the respective Director of Teaching?		

66	IF **Missing Information Test** == FAIL
	AND
	IF **DoT Opinion Check** == null
		<Generate **DoT Opinion Check**>	The *Mathematics' AMR Owner* has possibly identified missing information or data which was expected from the *Lecturer**. The *Mathematics' AMR Owner* now needs to decide if a second opinion is required from the *Mathematics' Director of Teaching*.
			
			If the *AMR Owner* does NOT require a second opinion from the *Director of Teaching*, then
			DoT Opinion Check == NOT REQUIRED
			
			If the *AMR Owner* does require a second opinion from the *Director of Teaching*, then
			DoT Opinion Check == REQUIRED

	Retrieve second opinion from Director of Teaching for Missing Information		

67	IF **DoT Opinion Check** == REQUIRED
	AND
	IF **DoT Second Opinion Discussion** == null
	AND
	IF **DoT Opinion** == null
		<Generate **DoT Second Opinion Discussion** with the **MDoT**>
		AND
		<Generate **DoT Opinion** with the **MDoT**>
			Mathematics' AMR Owner decides that they do require a second opinion from the *Mathematics' Director of Teaching*. Therefore, the *Mathematics' AMR Owner* engages in a discussion with the *Mathematics' Director of Teaching* to see if the DoT agrees.
			
			If the *Director of Teaching* agrees with the *AMR Owner*, that there is missing information which was expected, then
			DoT Opinion == AGREE
			
			If the *Director of Teaching* disagrees with the *AMR Owner*, that there is NOT missing information which was expected, then
			DoT Opinion == DISAGREE

	Director of Teaching disagrees with AMR Owner's opinion		
	IF **DoT Opinion** == DISAGREE AND	<Generate **Change Initial Decision**>	The *Mathematics' Director of Teaching* disagrees with the *Mathematics' AMR Owner*, which

68	IF **Change Initial Decision** == null		means the *Mathematics' AMR Owner* needs to decide whether or not the *Director of Teaching's* opinion changes the initial decision made by the *AMR Owner* that there is missing information which was expected from the *Lecturer** If the *AMR Owner* decides to change their initial decision due to the *Director of Teaching's* disagreement with it, then **Change Initial Decision** == CHANGE If the *AMR Owner* decides NOT to change their initial decision due to the *Director of Teaching's* disagreement with it, then **Change Initial Decision** == NOT CHANGE
<td colspan="4" align="center">**Request Lecturer to add Missing information to module documentation**</td>
69	IF **DoT Opinion Check** == NOT REQUIRED OR IF **DoT Opinion** == AGREE OR IF **Change Initial Decision** == NOT CHANGE AND IF **Add Missing Information Notification** == null	‹Generate **Add Missing Information Notification**› AND ‹Send **Add Missing Information Notification** to **Lecturer***›	The *Mathematics' AMR Owner* sends a notification to the *Lecturer** requesting that they add in the missing information which was expected from the *Lecturer** when they were updating their module(s) documentation.
<td colspan="4" align="center">**Major Change check against Lecturer's proposed module changes**</td>
70	IF **Missing Information Test** == PASS OR IF **Change Initial Discussion** == CHANGE OR	‹Generate **Major Change Test**› AND ‹Apply **Major Change Test** against **Module X Documentation** on **Microsoft OneDrive**›	*Mathematics' AMR Owner* conducts a check to ensure that the proposed module changes that have been inputted and updated on the module documentation on *Microsoft OneDrive* are NOT Major change proposals.

	IF **Missing Information Correction Notification** is received from **Lecturer*** AND **Major Change Test** == null		If the proposed module changes are Major change proposals, then **Major Change Test** == MAJOR CHANGE FOUND If the proposed module changes are NOT Major change proposals, then **Major Change Test** == MAJOR CHANGE NOT FOUND
Consult with Collaboration Leader and Director of Teaching to get agreement on Major Change
71	IF **Major Change Test** == MAJOR CHANGE FOUND AND IF **Major Change Agreement Discussion** == null AND IF **Major Change Consensus** == null	<Generate **Major Change Agreement Discussion** with **CL** and **MDoT**> AND <Generate **Major Change Consensus** with **CL** and **MDoT**>	*Mathematics' AMR Owner* believes that a possible Major Change has been identified among the proposed module changes by a *Lecturer** within the School of Mathematics. The *AMR Owner* reaches out to the *Collaboration Leader* and the *Mathematics' Director of Teaching* to consult and get advice. If there is agreement that a Major Change has been found, then **Major Change Consensus** == AGREE If there is NOT an agreement that a Major Change has been found, then **Major Change Consensus** == DISAGREE
Notify College Quality Officer of identified Major Change proposed and the relevant Lecturer
72	IF **Major Chance Consensus** == AGREE AND IF **Major Change Found Notification** == null	<Generate **Major Change Found Notification**> AND <Send **Major Change Found Notification** to **Lecturer*** and **CQO**>	The *Mathematics' AMR Owner*, *Mathematics' Director of Teaching* and *Collaboration Leader* agreed that a potential Major Change had been found. As a result, the *Mathematics' AMR Owner* notifies the *College Quality Officer* and the relevant *Lecturer** of the identified Major Change and next steps. *Major Changes are handled via a separate process managed at college level by the College Quality Officer*
Notify Collaboration Leader that Collection and Documentation Phase has concluded

73	IF DATE == Lecturer Deadline Date AND IF **Document Module Changes Concluded Notification** == null	<Generate **Document Module Changes Concluded Notification**> AND <Send **Document Module Changes Concluded Notification** to **CL**>	*Mathematics' AMR Owner* notifies the *Collaboration Leader* that the Collection and Documentation Phase within the School of Mathematics has concluded, and all *Lecturers* have documented their proposed module changes and updated their module documentation.
Notify Lecturer* to check they are satisfied with their proposed changes			
74	IF **Request Satisfaction Check** is received from **CL** AND IF **Satisfaction Confirmation Notification** == null AND IF **Satisfaction Confirmation Deadline** == null	<Generate **Satisfaction Confirmation Notification**> AND <Generate **Satisfaction Confirmation Deadline**> AND <Update **Satisfaction Confirmation Notification** with **Satisfaction Confirmation Deadline**> AND <Send **Satisfaction Confirmation Notification** to **Lecturer***>	*Mathematics' AMR Owner* requests the *Lecturers* within the School of Mathematics, to conduct a final check that they are satisfied and happy with the changes they have proposed for that academic year before they are evaluated and reviewed as part of the Consultation and Review phase. The *Lecturers* need to respond by the *Satisfaction Confirmation Deadline*.
Notified of applied Minor Correction by Lecturer			
75	IF **Minor Correction Applied Notification** is received from **Lecturer***	<Understand the **Minor Correction** which has been applied to the **Module X Documentation**>	*Mathematics' AMR Owner* examines the *Minor Correction* which has been applied by the *Lecturer** to the module documentation in order for the *Lecturer** to be satisfied.
First synchronisation meeting with process' Leadership team			
76	IF DATE == **Satisfaction Confirmation Deadline** AND IF **First Sync. Meeting** ≠ null	<Engage in **First Sync. Meeting** with **CSAMR Owner**, **CSDoT**, **MDoT** and **CL**>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process

Identify solution to raised SSP concern or feedback			
77	IF **M SSP Solution Discussion** ≠ null AND IF **M SSP Solution** == null	<Engage in **M SSP Solution Discussion** with **MDoT** and **Lecturer***> AND <Generate **M SSP Solution**>	*Mathematics' Director of Teaching*, *Mathematics' AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised student concern or feedback from the *Mathematics' Student Staff Panel* meeting.
Does SSP Solution required an update to the module documentation?			
78	IF **M SSP Solution** ≠ null AND IF **M SSP Document Check** == null	<Generate **M SSP Document Check**> AND <Apply **M SSP Document Check** against **M SSP Solution**>	*Mathematics' AMR Owner* checks whether or not the identified solution to the formally raised student concern or feedback from the *Mathematics' Student Staff Panel* forces an update to the module documentation, to ensure the documentation reflects the proposed module changes correctly. If the identified solution does force a required update to the module documentation, then **M SSP Document Check** == UPDATE REQUIRED If the identified solution does NOT force a required update to the module documentation, then **M SSP Document Check** == UPDATE NOT REQUIRED
SSP Solution forces an update to module(s) documentation			
79	IF **M SSP Document Check** == UPDATE REQUIRED AND IF **M SSP Document Update** == null	<Generate **M SSP Document Update**> AND <Update **Module X Documentation** with **M SSP Document Update**>	*Mathematics' AMR Owner* updates the module documentation to reflect the identified solution based on the formal student concern and feedback raised at the *Mathematics' Student Staff Panel*.
Notify SSP of identified solution to raised concern or feedback			
80	IF **Module X Documentation** has been updated with **M SSP Document Update** OR	<Generate **M Identified Solution Notification**> AND <Send **M Identified Solution Notification** to **MSSP**>	*Mathematics' AMR Owner* notifies the *Mathematics' Student Staff Panel* of the identified solution, found by the *Mathematics' AMR Owner*, *Mathematics' Director of Teaching*, and the relevant *Lecturer**

	IF **M SSP Document Check** == UPDATE NOT REQUIRED AND IF **M Identified Solution Notification** == null		
Notify Students of opportunity to provide informal feedback from Learning Central Page			
81	IF **Student Cohort Reach Out Request** is received from **CL** AND IF **Informal Student Feedback Notification** == null	<Generate **Informal Student Feedback Notification>** AND <Update **Informal Student Feedback Notification** with **Informal Student Feedback Deadline>** AND <Send **Informal Student Feedback Notification** to **Student*>**	*Mathematics' AMR Owner* notifies all *Student** year groups and cohorts within the School of Mathematics of the opportunity to provide informal student feedback and comments on the *SSP Approved Module Changes* on the *Learning Central Page* by the *Informal Student Feedback Deadline*.
Notify Director of Teaching and Collaboration Leader of informal Student Feedback			
82	IF **Informal Student Review Feedback** is received from **Student*** AND IF **Received Informal Student Feedback** == null	<Generate **Received Informal Student Feedback>** AND <Update **Received Informal Student Feedback** with **Informal Student Review Feedback>** AND <Send **Received Informal Student Feedback** to **CL** and **MDoT>**	*Mathematics' AMR Owner* shares with the *Collaboration Leader* and the *Mathematics' Director of Teaching* the informal student feedback received based on *Students* examining the *SSP Approved Module Changes* on the *Learning Central Page*.
Second synchronisation meeting with process' Leadership team			
83	IF DATE == **Informal Student Feedback Deadline** AND IF **Second Sync. Meeting** ≠ null	<Engage in **Second Sync. Meeting** with **CSAMR Owner**, **CSDoT**, **MDoT** and **CL>**	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with

			the status and progress of the process
Identify solution to raised BoS concern or feedback
84	IF `M BoS Solution Discussion` ≠ null AND IF `M BoS Solution` == null	`<Engage in M BoS Solution Discussion with Lecturer*` and `MDoT>` AND `<Generate M BoS Solution>`	*Mathematics' Director of Teaching, Mathematics' AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised concern or feedback from the *Mathematics' Board of Studies* meeting.
Does BoS Solution require an update to the module documentation?
85	IF `M BoS Solution` ≠ null AND IF `M BoS Document Check` == null	`<Generate M BoS Document Check>` AND `<Apply M BoS Document Check against M BoS Solution>`	*Mathematics' AMR Owner* checks whether or not the identified solution to the formally raised concern or feedback from the *Mathematics' Board of Studies* forces an update to the module documentation, to ensure the documentation reflects the proposed module changes correctly. If the identified solution does force a required update to the module documentation, then `M BoS Document Check` == UPDATE REQUIRED If the identified solution does NOT force a required update to the module documentation, then `M BoS Document Check` == UPDATE NOT REQUIRED
BoS Solution forces an update to module(s) documentation
86	IF `M BoS Document Check` == UPDATE REQUIRED AND IF `M BoS Document Update` == null	`<Generate M BoS Document Update>` AND `<Update Module X Documentation with M BoS Document Update>`	*Mathematics' AMR Owner* updates the module documentation to reflect the identified solution based on the formal student concern and feedback raised at the *Mathematics' Board of Studies*.
Notify BoS of identified solution to raised concern or feedback
87	IF `Module X Documentation` has been updated with `M BoS Document Update` OR	`<Generate M BoS Identified Solution Notification>` AND	*Mathematics' AMR Owner* notifies the *Mathematics' Board of Studies* of the identified solution, found by the *Mathematics' AMR Owner*,

	IF **M BoS Document Check** == UPDATE NOT REQUIRED AND IF **M BoS Identified Solution Notification** == null	<Send **M BoS Identified Solution Notification** to **MBoS**>	*Mathematics' Director of Teaching*, and the relevant *Lecturer**
<td colspan="4" align="center" style="background:green;color:white">**Third synchronisation meeting with process' Leadership team**</td>
88	IF **Third Sync. Meeting** ≠ null	<Engage in **Third Sync. Meeting** with **CSDoT**, **MDoT**, **CSAMR Owner** and **CL**>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
<td colspan="4" align="center" style="background:purple;color:white">**Leadership team process improvement meeting and discussion**</td>
89	IF DATE == **Process Improvement Feedback Deadline** AND IF **Process Improvement Discussion** ≠ null	<Engage in **Process Improvement Discussion** with **MDoT**, **CL**, **CSAMR Owner** and **CSDoT**> AND <Apply **Process Improvement Ideas** to **Process Improvement Discussion**>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet to discuss process improvement ideas based on feedback to ensure the AMR process improves both efficiently and effectively for the following academic year

<td colspan="4" align="center" style="background:black;color:white">**Computer Science's AMR Owner (CSAMR Owner)**</td>
#	Condition	Action / Task	Note
<td colspan="4" align="center" style="background:#1a7fd4;color:white">**AMR Owner Process Planning**</td>
90	IF **AMR Plan Discussion** ≠ null AND **AMR Execution Plan** == null	<Engage in **AMR Plan Discussion** with **CL** and **MAMR Owner**> AND <Generate **AMR Execution Plan**>	*Computer Science's AMR Owner* engages in discussion and planning with the *Collaboration Leader* and the *Mathematics' AMR Owner* to understand how to manage the execution of the process within the

			School of Mathematics through the creation of the *AMR Execution Plan*.
Check if Strategic Objectives could affect potentially proposed module changes by the Lecturer*			
91	IF `AMR Execution Plan` ≠ null AND IF `Strategic Objectives Check ==` null	`<Generate Strategic Objectives Check>` AND `<Apply Strategic Objectives Check against List of Modules>`	The *Computer Science's AMR Owner* checks that based on the *AMR Execution Plan* which has been driven by strategic objectives and initiatives outlined by the *Mathematics' Director of Teaching* and the *Computer Science's Director of Teaching* through the *Collaboration Leader*, if there are any specific modules and relevant *Lecturer** whose potential proposed module changes may be affected significantly as a result. If no modules are significantly affected as a result of the strategic objectives, then `Strategic Objectives Check ==` No Effect If modules are significantly affected as a result of the strategic objectives, then `Strategic Objectives Check ==` Effected
Strategic Objectives have no effect on potentially proposed module changes			
92	IF `Strategic Objectives Check ==` No Effect	`<Do Nothing>`	No further action is required.
Strategic Objectives have an effect on potentially proposed module changes			
93	IF `Strategic Objectives Check ==` Effected	`<Identify relevant Lecturer*` responsible for the affected module>`	*Computer Science's AMR Owner* identifies the relevant *Lecturer** who is responsible for the module(s) which are likely to affect potential proposed module changes due to the strategic objectives and initiatives outlined by the *Computer Science's Director of Teaching*.
Notify relevant Lecturer* so they can prepare for when they proposed module changes			
94	IF `CSAMR Owner` identified relevant `Lecturer*` AND	`<Generate Strategic Objectives Impact Notification>` AND	*Computer Science's AMR Owner* notifies the relevant *Lecturer** of their module(s) which are affected by the strategic objectives and initiatives

	IF **Strategic Objectives Impact Notification** == null	<Send **Strategic Objectives Impact Notification** to **Lecturer***>	outlined by the *Computer Science's Director of Teaching*. As a result, warning the *Lecturer** so they can take those objectives and initiatives into account when proposing their module changes and enhancements.
Review AMR Execution Plan
95	IF **Module Changes Deadline Notification** is received from **UR** AND IF **AMR Execution Plan Review Discussion** ≠ null	<Engage in **AMR Execution Plan Review Discussion** with **CL** and **MAMR Owner**> AND <Update **AMR Execution Plan** with **Module Changes Deadline Date**>	The *Collaboration Leader*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* review the *AMR Execution Plan* and updates the *AMR Execution Plan* with the *Module Changes Deadline Date* from the *University Registry*.
Generate Lecturer Deadline Date
96	IF **AMR Execution Plan Review Discussion** ≠ null AND IF **Lecturer Deadline Date** == null	<Generate **Lecturer Deadline Date** with the **CL** and **MAMR Owner**>	The *Collaboration Leader, Computer Science's AMR Owner* and the *Mathematics' AMR Owner* find a date in which all the *Lecturers* within the School of Computer Science and Informatics and the School of Mathematics must input and update the relevant module documentation with their proposed module changes.
Notify Lecturer* to review their modules
97	IF **Lecturer Deadline Date** ≠ null AND IF **Begin Review Notification** == null	<Generate **Begin Review Notification**> AND <Update **Begin Review Notification** with **Lecturer Deadline Date**> AND <Send **Begin Review Notification** to **Lecturer***>	The *Computer Science's AMR Owner* notifies the *Lecturers* within the School of Computer Science and Informatics to begin their annual module review process. The notification contains the *Lecturer Deadline Date* which explicitly states the date by which the *Lecturer** must input their proposed module changes and update their module documentation. The notification will also outline all information expected from the *Lecturer**.
Missing information test against updated module(s) documentation
	IF **Module Update Completion Notification** is	<Generate **Missing Information Test**> AND	The *Computer Science's AMR Owner* checks the updated module(s) documentation on *Microsoft OneDrive*, to ensure that the module

98	received from **Lecturer*** AND IF **Missing Information Test** == null	<Apply **Missing Information Test** against **Module X Documentation** on **Microsoft OneDrive**>	documentation is not missing any information or data that was expected based on the instructions in the *Begin Review Notification (CSAMR Owner)*. If all expected information has been provided by the Lecturer* when they updated their module documentation, then Missing Information Test == PASS If NOT all expected information has been provided by the Lecturer* when they updated their module documentation, then Missing Information Test == FAIL
	Is a second opinion required from the respective Director of Teaching?		
99	IF **Missing Information Test** == FAIL AND IF **DoT Opinion Check** == null	<Generate **DoT Opinion Check**>	The *Computer Science's AMR Owner* has possibly identified missing information or data which was expected from the *Lecturer**. The *Computer Science's AMR Owner* now needs to decide if a second opinion is required from the *Computer Science's Director of Teaching*. If the *AMR Owner* does NOT require a second opinion from the *Director of Teaching*, then **DoT Opinion Check** == NOT REQUIRED If the *AMR Owner* does require a second opinion from the *Director of Teaching*, then **DoT Opinion Check** == REQUIRED
	Retrieve second opinion from Director of Teaching for Missing Information		
100	IF **DoT Opinion Check** == REQUIRED AND IF **DoT Second Opinion Discussion** == null	<Generate **DoT Second Opinion Discussion** with the **CSDoT**> AND <Generate **DoT Opinion** with the **CSDoT**>	*Computer Science's AMR Owner* decides that they do require a second opinion from the *Computer Science's Director of Teaching*. Therefore, the *Computer Science's AMR Owner* engages in a discussion with the

	AND
	IF **DoT Opinion** == null
			Computer Science's Director of Teaching to see if the DoT agrees.
			
			If the *Director of Teaching* agrees with the *AMR Owner*, that there is missing information which was expected, then
			DoT Opinion == AGREE
			
			If the *Director of Teaching* disagrees with the *AMR Owner*, that there is NOT missing information which was expected, then
			DoT Opinion == DISAGREE

<td colspan="4" align="center">**Director of Teaching disagrees with AMR Owner's opinion**</td>

101	IF **DoT Opinion** == DISAGREE
	AND
	IF **Change Initial Decision** == null
		<Generate **Change Initial Decision**>	The *Computer Science's Director of Teaching* disagrees with the *Computer Science's AMR Owner*, which means the *Computer Science's AMR Owner* needs to decide whether or not the *Director of Teaching's* opinion changes the initial decision made by the *AMR Owner* that there is missing information which was expected from the *Lecturer**
			
			If the *AMR Owner* decides to change their initial decision due to the *Director of Teaching's* disagreement with it, then
			Change Initial Decision == CHANGE
			
			If the *AMR Owner* decides NOT to change their initial decision due to the *Director of Teaching's* disagreement with it, then
			Change Initial Decision == NOT CHANGE

<td colspan="4" align="center">**Request Lecturer to add Missing information to module documentation**</td>
102	IF **DoT Opinion Check** == NOT REQUIRED OR	<Generate **Add Missing Information Notification**> AND	The *Computer Science's AMR Owner* sends a notification to the *Lecturer** requesting that they add in the missing information which was

	IF **DoT Opinion** == AGREE OR IF **Change Initial Decision** == NOT CHANGE AND IF **Add Missing Information Notification** == null	<Send **Add Missing Information Notification** to **Lecturer***>	expected from the *Lecturer** when they were updating their module(s) documentation.
Major Change check against Lecturer's proposed module changes
103	IF **Missing Information Test** == PASS OR IF **Change Initial Discussion** == CHANGE OR IF **Missing Information Correction Notification** is received from **Lecturer*** AND **Major Change Test** == null	<Generate **Major Change Test**> AND <Apply **Major Change Test** against **Module X Documentation** on **Microsoft OneDrive**>	*Computer Science's AMR Owner* conducts a check to ensure that the proposed module changes that have been inputted and updated on the module documentation on *Microsoft OneDrive* are NOT Major change proposals. If the proposed module changes are Major change proposals, then **Major Change Test** == MAJOR CHANGE FOUND If the proposed module changes are NOT Major change proposals, then **Major Change Test** == MAJOR CHANGE NOT FOUND
Consult with Collaboration Leader and Director of Teaching to get agreement on Major Change
104	IF **Major Change Test** == MAJOR CHANGE FOUND AND IF **Major Change Agreement Discussion** == null	<Generate **Major Change Agreement Discussion** with **CL** and **CSDoT**> AND <Generate **Major Change Consensus** with **CL** and **CSDoT**>	*Computer Science's AMR Owner* believes that a possible Major Change has been identified among the proposed module changes by a *Lecturer** within the School of Computer Science and Informatics. The *AMR Owner* reaches out to the *Collaboration Leader* and the *Computer Science's Director of Teaching* to consult and get advice. If there is agreement that a Major Change has been found, then **Major Change Consensus** == AGREE

			If there is NOT an agreement that a Major Change has been found, then **Major Change Consensus** == DISAGREE
<td colspan="4" style="background:#C00000;color:#fff;text-align:center">**Notify College Quality Officer of identified Major Change proposed and the relevant Lecturer**</td>			
105	IF **Major Chance Consensus** == AGREE AND IF **Major Change Found Notification** == null	<Generate **Major Change Found Notification**> AND <Send **Major Change Found Notification** to **Lecturer*** and **CQO**>	The *Computer Science's AMR Owner*, *Computer Science's Director of Teaching* and *Collaboration Leader* agreed that a potential Major Change had been found. As a result, the *Computer Science's AMR Owner* notifies the *College Quality Officer* and the relevant *Lecturer** of the identified Major Change and next steps. *Major Changes are handled via a separate process managed at college level by the College Quality Officer*
<td colspan="4" style="background:#C00000;color:#fff;text-align:center">**Notify Collaboration Leader that Collection and Documentation Phase has concluded**</td>			
106	IF DATE == Lecturer Deadline Date AND IF **Document Module Changes Concluded Notification** == null	<Generate **Document Module Changes Concluded Notification**> AND <Send **Document Module Changes Concluded Notification** to **CL**>	*Computer Science's AMR Owner* notifies the *Collaboration Leader* that the Collection and Documentation Phase within the School of Computer Science and Informatics has concluded, and all *Lecturers* have documented their proposed module changes and updated their module documentation.
<td colspan="4" style="background:#00B050;color:#fff;text-align:center">**Notify Lecturer* to check they are satisfied with their proposed changes**</td>			
107	IF **Request Satisfaction Check** is received from **CL** AND IF **Satisfaction Confirmation Notification** == null AND IF **Satisfaction Confirmation Deadline** == null	<Generate **Satisfaction Confirmation Notification**> AND <Generate **Satisfaction Confirmation Deadline**> AND <Update **Satisfaction Confirmation Notification** with **Satisfaction Confirmation Deadline**> AND	*Computer Science's AMR Owner* requests the *Lecturers* within the School of Computer Science and Informatics, to conduct a final check that they are satisfied and happy with the changes they have proposed for that academic year before they are evaluated and reviewed as part of the Consultation and Review phase. The *Lecturers* need to respond by the *Satisfaction Confirmation Deadline*.

		`<Send `**`Satisfaction Confirmation Notification`**` to `**`Lecturer*>`**	
		Notified of applied Minor Correction by Lecturer	
108	IF **`Minor Correction Applied Notification`** is received from **`Lecturer*`**	`<Understand the `**`Minor Correction`**` which has been applied to the `**`Module X Documentation>`**	*Computer Science's AMR Owner* examines the *Minor Correction* which has been applied by the *Lecturer** to the module documentation in order for the *Lecturer** to be satisfied.
		First synchronisation meeting with process' Leadership team	
109	IF DATE == **`Satisfaction Confirmation Deadline`** AND IF **`First Sync. Meeting`** ≠ null	`<Engage in `**`First Sync. Meeting`**` with `**`MAMR Owner`**`, `**`CSDoT`**`, `**`MDoT`**` and `**`CL>`**	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
		Identify solution to raised SSP concern or feedback	
110	IF **`CS SSP Solution Discussion`** ≠ null AND IF **`CS SSP Solution`** == null	`<Engage in `**`CS SSP Solution Discussion`**` with `**`CSDoT`**` and `**`Lecturer*>`** AND `<Generate `**`CS SSP Solution>`**	*Computer Science's Director of Teaching, Computer Science's AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised student concern or feedback from the *Computer Science's Student Staff Panel* meeting.
		Does SSP Solution required an update to the module documentation?	
111	IF **`CS SSP Solution`** ≠ null AND IF **`CS SSP Document Check`** == null	`<Generate `**`CS SSP Document Check>`** AND `<Apply `**`CS SSP Document Check`**` against `**`CS SSP Solution>`**	*Computer Science's AMR Owner* checks whether or not the identified solution to the formally raised student concern or feedback from the *Computer Science's Student Staff Panel* forces an update to the module documentation, to ensure the documentation reflects the proposed module changes correctly.

If the identified solution does force a required update to the module documentation, then |

			CS SSP Document Check == UPDATE REQUIRED If the identified solution does NOT force a required update to the module documentation, then CS SSP Document Check == UPDATE NOT REQUIRED
		SSP Solution forces an update to module(s) documentation	
112	IF **CS SSP Document Check** == UPDATE REQUIRED AND IF **CS SSP Document Update** == null	<Generate **CS SSP Document Update**> AND <Update **Module X Documentation** with **CS SSP Document Update**>	*Computer Science's AMR Owner* updates the module documentation to reflect the identified solution based on the formal student concern and feedback raised at the *Computer Science's Student Staff Panel.*
		Notify SSP of identified solution to raised concern or feedback	
113	IF **Module X Documentation** has been updated with **CS SSP Document Update** OR IF **CS SSP Document Check** == UPDATE NOT REQUIRED AND IF **CS Identified Solution Notification** == null	<Generate **CS Identified Solution Notification**> AND <Send **CS Identified Solution Notification** to CSSSP>	*Computer Science's AMR Owner* notifies the *Computer Science's Student Staff Panel* of the identified solution, found by the *Computer Science's AMR Owner*, *Computer Science's Director of Teaching*, and the relevant *Lecturer**
		Notify Students of opportunity to provide informal feedback from Learning Central Page	
114	IF **Student Cohort Reach Out Request** is received from **CL** AND IF **Informal Student Feedback Notification** == null	<Generate **Informal Student Feedback Notification**> AND <Update **Informal Student Feedback Notification** with **Informal Student Feedback Deadline**> AND <Send **Informal Student Feedback Notification** to **Student***>	*Computer Science's AMR Owner* notifies all *Student** year groups and cohorts within the School of Computer Science and Informatics of the opportunity to provide informal student feedback and comments on the *SSP Approved Module Changes* on the *Learning Central Page* by the *Informal Student Feedback Deadline.*
		Notify Director of Teaching and Collaboration Leader of informal Student Feedback	

115	IF **Informal Student Review Feedback** is received from **Student*** AND IF **Received Informal Student Feedback** == null	<Generate **Received Informal Student Feedback>** AND <Update **Received Informal Student Feedback** with **Informal Student Review Feedback>** AND <Send **Received Informal Student Feedback** to **CL** and **CSDoT>**	*Computer Science's AMR Owner* shares with the *Collaboration Leader* and the *Computer Science's Director of Teaching* the informal student feedback received based on *Students* examining the *SSP Approved Module Changes* on the *Learning Central Page*.
	Second synchronisation meeting with process' Leadership team		
116	IF DATE == **Informal Student Feedback Deadline** AND IF **Second Sync. Meeting** ≠ null	<Engage in **Second Sync. Meeting** with **MAMR Owner**, **CSDoT**, **MDoT** and **CL>**	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process
	Identify solution to raised BoS concern or feedback		
117	IF **CS BoS Solution Discussion** ≠ null AND IF **CS BoS Solution** == null	<Engage in **CS BoS Solution Discussion** with **Lecturer*** and **CSDoT>** AND <Generate **CS BoS Solution>**	*Computer Science's Director of Teaching, Computer Science's AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised concern or feedback from the *Computer Science's Board of Studies* meeting.
	Does BoS Solution require an update to the module documentation?		
118	IF **CS BoS Solution** ≠ null AND IF **CS BoS Document Check** == null	<Generate **CS BoS Document Check>** AND <Apply **CS BoS Document Check** against **CS BoS Solution>**	*Computer Science's AMR Owner* checks whether or not the identified solution to the formally raised concern or feedback from the *Computer Science's Board of Studies* forces an update to the module documentation, to ensure the documentation reflects the proposed module changes correctly.

| | | | If the identified solution does force a required update to the module documentation, then **CS BoS Document Check** == UPDATE REQUIRED |
| | | | If the identified solution does NOT force a required update to the module documentation, then **CS BoS Document Check** == UPDATE NOT REQUIRED |

	BoS Solution forces an update to module(s) documentation		
119	IF **CS BoS Document Check** == UPDATE REQUIRED AND IF **CS BoS Document Update** == null	<Generate **CS BoS Document Update**> AND <Update **Module X Documentation** with **CS BoS Document Update**>	*Computer Science's AMR Owner* updates the module documentation to reflect the identified solution based on the formal student concern and feedback raised at the *Computer Science's Board of Studies.*

	Notify BoS of identified solution to raised concern or feedback		
120	IF **Module X Documentation** has been updated with **CS BoS Document Update** OR IF **CS BoS Document Check** == UPDATE NOT REQUIRED AND IF **CS BoS Identified Solution Notification** == null	<Generate **CS BoS Identified Solution Notification**> AND <Send **CS BoS Identified Solution Notification** to CSBoS>	*Computer Science's AMR Owner* notifies the *Computer Science's Board of Studies* of the identified solution, found by the *Computer Science's AMR Owner, Computer Science's Director of Teaching*, and the relevant *Lecturer**

	Third synchronisation meeting with process' Leadership team		
121	IF **Third Sync. Meeting** ≠ null	<Engage in **Third Sync. Meeting** with **CSDoT**, **MDoT**, **MAMR Owner** and **CL**>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet for a debrief and synchronisation meeting to ensure they are all up to date with the status and progress of the process

	Leadership team process improvement meeting and discussion		

#	Condition	Action / Task	Note
122	IF DATE == **Process Improvement Feedback Deadline** AND IF **Process Improvement Discussion** ≠ null	<Engage in **Process Improvement Discussion** with **MDoT**, **CL**, **MAMR Owner** and **CSDoT**> AND <Apply **Process Improvement Ideas** to **Process Improvement Discussion**>	The leadership team of the process which includes the *Mathematics' AMR Owner, Computer Science's AMR Owner, Mathematics' Director of Teaching, Computer Science's Director of Teaching* and *Collaboration Leader* meet to discuss process improvement ideas based on feedback to ensure the AMR process improves both efficiently and effectively for the following academic year

Lecturer			
#	Condition	Action / Task	Note
Aware of how Strategic Objectives effect potentially proposed module changes			
123	IF **Strategic Objectives Impact Notification** is received from **CSAMR Owner** / **MAMR Owner**	<Understand how the strategic objectives will affect proposed module changes>	*Lecturer** within either the School of Mathematics or the School of Computer Science and Informatics reads and understands the notification from their respective AMR Owner, of how the strategic objectives and initiatives will impact their module(s), and as a result their potentially proposed module changes in the process.
Locate relevant module(s) documentation			
124	IF **Begin Review Notification** is received from **CSAMR Owner** / **MAMR Owner** AND IF **Lecturer*** teaches **Module X** AND IF Date <= **Lecturer Deadline Date**	<Locate relevant **Module X Documentation** on **Microsoft OneDrive**>	*Lecturer** locates the relevant module documentation for the modules in which they are responsible for on the *Microsoft OneDrive*.
Update module(s) documentation with proposed changes			
125	IF **Module X Documentation** is located on **Microsoft OneDrive**	<Generate **Proposed Module X Changes**> AND	*Lecturer** updates the relevant module documentation on *Microsoft OneDrive* with their proposed module changes and enhancements.

	AND IF **Proposed Module X Changes** == null	<Update **Module X Documentation** with **Proposed Module X Changes**>	
<td colspan="3" style="background:#C00;color:#fff;text-align:center">**Notify respective AMR Owner of updated module documentation**</td>			
126	IF **Module X Documentation** has been updated with **Proposed Module X Changes** AND IF **Module Update Completion Notification** == null	<Generate **Module Update Completion Notification**> AND <Send **Module Update Completion Notification** to **CSAMR Owner / MAMR Owner**>	*Lecturer** notifies respective *AMR Owner* that they have completed updating their module documentation with their proposed changes and enhancements. If Computer Science *Lecturer**, they send the notification to *Computer Science's AMR Owner* IF Mathematics' *Lecturer**, they send the notification to *Mathematics' AMR Owner*
<td colspan="3" style="background:#C00;color:#fff;text-align:center">**Update module(s) documentation with Missing information**</td>			
127	IF **Add Missing Information Notification** is received from **CSAMR Owner / MAMR Owner** AND IF **Missing Information Correction** == null	<Generate **Missing Information Correction**> AND <Update **Module X Documentation** with **Missing Information Correction**>	*Lecturer** adds in the missing information and updates the module documentation with the correction as requested and instructed by the *respective AMR Owner*
<td colspan="3" style="background:#C00;color:#fff;text-align:center">**Notify AMR Owner of Missing Information correction being applied**</td>			
128	IF **Module X Documentation** has been updated with **Missing Information Correction** AND IF **Missing Information Correction Notification** == null	<Generate **Missing Information Correction Notification**> AND <Send **Missing Information Correction Notification** to **CSAMR Owner / MAMR Owner**>	*Lecturer** notifies their respective *AMR Owner* that they have applied the *Missing Information Correction* and updated their module documentation to ensure it has all expected information. If it is a Computer Science *Lecturer**, the notification is sent to the *Computer Science's AMR Owner* If it is a Mathematics *Lecturer**, the notification is sent to the *Mathematics' AMR Owner*
<td colspan="3" style="background:#C00;color:#fff;text-align:center">**Major Change Identified: Next Steps**</td>			

129	IF **Major Change Found Notification** is received from **CSAMR Owner / MAMR Owner**	‹Understand the instructions as outlined in the **Major Change Found Notification**›	*Lecturer** receives notification that one of their proposed module changes is classed as a Major proposal. As a result, the approval of that change will now be managed via a separate process, which is owned by the *College Quality Officer* at College level.
Double check the Lecturer is satisfied with the module changes they have proposed
130	IF **Satisfaction Confirmation Notification** is received from **CSAMR Owner / MAMR Owner** AND IF **Changes Satisfaction Check** == null AND IF DATE <= **Satisfaction Confirmation Deadline**	‹Generate **Changes Satisfaction Check**› AND ‹Apply **Changes Satisfaction Check** against **Module X Documentation**›	*Lecturer** checks that they are satisfied with their proposed module changes for the academic year. If *Lecturer** is satisfied with their proposed module changes, then **Changes Satisfaction Check** == SATISFIED If *Lecturer** is satisfied with their proposed module changes, then **Changes Satisfaction Check** == NOT SATISFIED
Lecturer is satisfied with their proposed module changes
131	IF **Changes Satisfaction Check** == SATISFIED	‹Do Nothing›	No further action is required.
Apply minor corrections to ensure satisfaction
132	IF **Changes Satisfaction Check** == NOT SATISFIED AND IF **Minor Correction** == null	‹Generate **Minor Correction**› AND ‹Apply **Minor Correction** against **Module X Documentation**›	*Lecturer** identifies the minor correction required to be satisfied with their proposed module changes and applies that *Minor Correction* to the module documentation.
Notify AMR Owner of the minor correction applied
133	IF **Module X Documentation** has been updated with **Minor Correction** AND IF **Minor Correction Applied Notification** == null	‹Generate **Minor Correction Applied Notification**› AND ‹Send **Minor Correction Applied Notification** to CSAMR Owner / MAMR Owner›	*Lecturer** notifies their respective *AMR Owner* of the *Minor Correction* they have applied to their module documentation.
Identify solution to raised SSP concern or feedback (CS)

134	IF **CS SSP Solution Discussion** ≠ null AND IF **CS SSP Solution** == null	<Engage in **CS SSP Solution Discussion** with **CSDoT** and **CSAMR Owner**> AND <Generate **CS SSP Solution**>	*Computer Science's Director of Teaching, Computer Science's AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised student concern or feedback from the *Computer Science's Student Staff Panel* meeting.
Identify solution to raised SSP concern or feedback (M)
135	IF **M SSP Solution Discussion** ≠ null AND IF **M SSP Solution** == null	<Engage in **M SSP Solution Discussion** with **MDoT** and **MAMR Owner**> AND <Generate **M SSP Solution**>	*Mathematics' Director of Teaching, Mathematics' AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised student concern or feedback from the *Mathematics' Student Staff Panel* meeting.
Identify solution to raised BoS concern or feedback (CS)
136	IF **CS BoS Solution Discussion** ≠ null AND IF **CS BoS Solution** == null	<Engage in **CS BoS Solution Discussion** with **CSAMR Owner** and **CSDoT**> AND <Generate **CS BoS Solution**>	*Computer Science's Director of Teaching, Computer Science's AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised concern or feedback from the *Computer Science's Board of Studies* meeting.
Identify solution to raised BoS concern or feedback (M)
137	IF **M BoS Solution Discussion** ≠ null AND IF **M BoS Solution** == null	<Engage in **M BoS Solution Discussion** with **MAMR Owner** and **MDoT**> AND <Generate **M BoS Solution**>	*Mathematics' Director of Teaching, Mathematics' AMR Owner* and the relevant *Lecturer** identify a solution to the formally raised concern or feedback from the *Mathematics' Board of Studies* meeting.
AMR Process Improvement Feedback
138	IF **Lecturer Feedback Notification** is received from **CSDoT / MDoT** AND IF **Process Improvement Ideas** == null AND IF DATE <= **Process Improvement Feedback Deadline**	<Generate **Process Improvement Ideas**> AND <Send **Process Improvement Ideas** to **CSDoT / MDoT**>	*Lecturer** comes up with ideas on how to improve the AMR process for the next academic year and sends those ideas to their respective *Director of Teaching*. If the *Lecturer** is part of the School of Computer Science and Informatics, then the *Process Improvement Ideas* are sent to the *CSDoT* If the *Lecturer** is part of the School of Mathematics, then the *Process*

			Improvement Ideas are sent to the *MDoT*

College Quality Officer (CQO)			
#	Condition	Action / Task	Note
Major Change Identified: Implement and Execute Major Change Policy			
139	IF **Major Change Found Notification** is received from **CSAMR Owner / MAMR Owner**	<Implement **Major Change Policy**>	*College Quality Officer* implements the *Major Change Policy* via College level which commences a separate process to this one.

Mathematics' Student Staff Panel (MSSP)			
#	Condition	Action / Task	Note
Receive Mathematics' Student Staff Panel meeting date			
140	IF **M SSP Meeting Date** is received from **CL**	<Record and note the **M SSP Meeting Date**>	*Mathematics' Student Staff Panel* record and note down the date in which the meeting will take place.
Student Staff Panel meeting commences			
141	IF DATE == **M SSP Meeting Date** AND IF **M SSP** == null	<Generate **M SSP** meeting session>	*Mathematics' Student Staff Panel* meeting commences
Student Staff Panel review proposed module changes			
142	IF **M SSP** ≠ null AND IF **M SSP Check** == null	<Generate **M SSP Check**> AND <Apply **M SSP Check** against **Module X Documentation**>	*Mathematics' Student Staff Panel* review and evaluate the proposed module changes, checking if there are any formal student concerns or feedback based on the proposed module changes If there are formal student concerns or feedback, then **M SSP Check** == CONCERN FOUND If there are NO formal student concerns or feedback, then

#	Condition	Action / Task	Note
			M SSP Check == CONCERN NOT FOUND
No formal SSP concerns or feedback raised		
143	IF **M SSP Check** == CONCERN NOT FOUND	<Do Nothing>	No further action required.
Receive identified solution to raised SSP concern or feedback		
144	IF **M Identified Solution Notification** is received from **MAMR Owner**	<Understand and recognise the **M Identified Solution Notification**>	*Mathematics' Student Staff Panel* understands and recognises the identified solution from the *Mathematics' AMR Owner*, *Mathematics' Director of Teaching*, and the relevant *Lecturer**

Computer Science's Student Staff Panel (CSSSP)		
#	**Condition**	**Action / Task**	**Note**
Receive Computer Science's Student Staff Panel meeting date		
145	IF **CS SSP Meeting Date** is received from **CL**	<Record and note the **CS SSP Meeting Date**>	*Computer Science's Student Staff Panel* record and note down the date in which the meeting will take place.
Student Staff Panel meeting commences		
146	IF DATE == **CS SSP Meeting Date** AND IF **CS SSP** == null	<Generate **CS SSP** meeting session>	*Computer Science's Student Staff Panel* meeting commences
Student Staff Panel review proposed module changes		
147	IF **CS SSP** ≠ null AND IF **CS SSP Check** == null	<Generate **CS SSP Check**> AND <Apply **CS SSP Check** against **Module X Documentation**>	*Computer Science's Student Staff Panel* review and evaluate the proposed module changes, checking if there are any formal student concerns or feedback based on the proposed module changes

If there are formal student concerns or feedback, then **CS SSP Check** == CONCERN FOUND

If there are NO formal student concerns or feedback, then |

			CS SSP Check == CONCERN NOT FOUND
No formal SSP concerns or feedback raised		
148	IF **CS SSP Check** == CONCERN NOT FOUND	`<Do Nothing>`	No further action required.
Receive identified solution to raised SSP concern or feedback		
149	IF **CS Identified Solution Notification** is received from **CSAMR Owner**	`<Understand and recognise the CS Identified Solution Notification>`	*Computer Science's Student Staff Panel* understands and recognises the identified solution from the *Computer Science's AMR Owner, Computer Science's Director of Teaching*, and the relevant *Lecturer**

Student*		
#	**Condition**	**Action / Task**	**Note**
Check SSP Approved Module Changes on Learning Central Page		
150	IF DATE <= **Informal Student Feedback Deadline** AND IF **Informal Student Feedback Notification** is received from **CSAMR Owner** / **MAMR Owner** AND IF **Informal Student Review** == null	`<Generate Informal Student Review>` AND `<Apply Informal Student Review against SSP Approved Module Changes on Learning Central Page>`	The *Student** decides to read and examine the proposed module changes on the *Learning Central Page*. If the *Student** has feedback to share after examining and reading the proposed module changes, then **Informal Student Review** == FEEDBACK If the *Student** has feedback to share after examining and reading the proposed module changes, then **Informal Student Review** == NO FEEDBACK
Learning Central: No feedback required after examining proposed module changes		
151	IF **Informal Student Review** == NO FEEDBACK	`<Do Nothing>`	No further action is required.
Notify AMR Owner of informal feedback based on Approved SSP Module Changes		
152	IF **Informal Student Review** == FEEDBACK AND	`<Generate Informal Student Review Feedback>` AND	*Student** identified informal feedback they want to share based on examining and reading the proposed module changes on the *Learning Central Page*.

| | IF **Informal Student Review Feedback** == null | <Send **Informal Student Review Feedback** to **CSAMR Owner** / **MAMR Owner**> | If the *Student** is in the School of Computer Science and Informatics, the *Student** sends the feedback to the *CSAMR Owner*

If the *Student** is in the School of Mathematics, the *Student** sends the feedback to the *MAMR Owner* |

Mathematics' Board of Studies (MBoS)			
<u>#</u>	<u>Condition</u>	<u>Action / Task</u>	<u>Note</u>
Receive Mathematics' Student Staff Panel meeting date			
153	IF **M BoS Date Notification** is received from **CL**	<Record and note the **M BoS Date**>	*Mathematics' Board of Studies* record and note down the date in which the meeting will take place.
Board of Studies meeting commences			
154	IF DATE == **M BoS Date** AND IF **M BoS** == null	<Generate **M BoS**>	*Mathematics' Board of Studies* meeting commences
Board of Studies reviews proposed module changes			
155	IF **M BoS** ≠ null AND IF **M BoS Check** == null	<Generate **M BoS Check**> AND <Apply **M BoS Check** against **Module X Documentation**>	*Mathematics' Board of Studies* review and evaluate the proposed module changes, checking if there are any formal concerns or feedback based on the proposed module changes

If there are formal concerns or feedback, then **M BoS Check** == CONCERN FOUND

If there are NO formal concerns or feedback, then **M BoS Check** == CONCERN NOT FOUND |
No Board of Studies concerns found			
156	IF **M BoS Check** == CONCERN NOT FOUND	<Do Nothing>	No further action is required.
Receive identified solution to raised BoS concern or feedback			

#	Condition	Action / Task	Note
157	IF **M BoS Identified Solution Notification** is received from **MAMR Owner**	**<Understand and recognise the M BoS Identified Solution Notification>**	*Mathematics' Board of Studies* understands and recognises the identified solution from the *Mathematics' AMR Owner*, *Mathematics' Director of Teaching*, and the relevant *Lecturer**

Computer Science's Board of Studies (CSBoS)			
#	Condition	Action / Task	Note
Receive Computer Science's Student Staff Panel meeting date			
158	IF **CS BoS Date Notification** is received from **CL**	**<Record and note the CS BoS Date>**	*Computer Science's Board of Studies* record and note down the date in which the meeting will take place.
Board of Studies meeting commences			
159	IF DATE == **CS BoS Date** AND IF **CS BoS** == null	**<Generate CS BoS>**	*Computer Science's Board of Studies* meeting commences
Board of Studies reviews proposed module changes			
160	IF **CS BoS** ≠ null AND IF **CS BoS Check** == null	**<Generate CS BoS Check>** AND **<Apply CS BoS Check against Module X Documentation>**	*Computer Science's Board of Studies* review and evaluate the proposed module changes, checking if there are any formal concerns or feedback based on the proposed module changes If there are formal concerns or feedback, then **CS BoS Check** == CONCERN FOUND If there are NO formal concerns or feedback, then **CS BoS Check** == CONCERN NOT FOUND
No Board of Studies concerns found			
161	IF **CS BoS Check** == CONCERN NOT FOUND	**<Do Nothing>**	No further action is required.
Receive identified solution to raised BoS concern or feedback			

#	Condition	Action / Task	Note
162	IF `CS BoS Identified Solution Notification` is received from `CSAMR Owner`	`<Understand and recognise the CS BoS Identified Solution Notification>`	*Computer Science's Board of Studies* understands and recognises the identified solution from the *Computer Science's AMR Owner, Computer Science's Director of Teaching*, and the relevant *Lecturer**

Office and Administration Team (O&A Team)			
#	Condition	Action / Task	Note
Upload approved module changes into SIMS			
163	IF `O&A Complete Data Upload Notification` is received from `CL`	`<Upload O&A Data Input List into SIMS>`	*Office and Administration Team* upload all approved module changes into *SIMS*
Notify Collaboration Leader that all approved module changes have been uploaded to SIMS			
164	IF `O&A Data Input List` has been uploaded into `SIMS` AND IF `Data Upload Completion Notification` == null	`<Generate Data Upload Completion Notification>` AND `<Send Data Upload Completion Notification to Collaboration Leader>`	*Office and Administration Team* notify the *Collaboration Leader* that all approved module changes from the School of Computer Science and Informatics and the School of Mathematics have been uploaded into *SIMS*.

University Registry (UR)			
#	Condition	Action / Task	Note
Generate Module Changes Deadline Date			
165	IF month == January AND IF `Module Changes Deadline Date` == null	`<Generate Module Changes Deadline Date>`	The *University Registry* identifies a deadline date in which the School of Computer Science and Informatics and the School of Mathematics must have all their proposed module changes approved by their respective Board of Studies and uploaded into SIMS by.
Send Module Changes Deadline Date to the Schools			
166	IF `Module Changes Deadline Date` ≠ null AND	`<Generate Module Changes Deadline Notification>` AND `<Add Module Changes Deadline Date to Module`	The *University Registry* notifies the *Collaboration Leader*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* of the *Module Changes Deadline Date* in

	IF **Module Changes Deadline Notification** == null	**Changes Deadline Notification>** AND <Send **Module Changes Deadline Notification** to **MAMR Owner**, **CSAMR Owner** and **CL>**	which all proposed module changes must be approved and uploaded into SIMS by.

There is a total of 166 business rules for the Governance and Diligence Oriented Integrated Annual Module Review Process.

Appendix L: Speediness and Expedition Oriented – Business Rules

Mathematics' Director of Teaching (MDoT)			
#	Condition	Action / Task	Note
Create AMR Execution Plan			
01	IF month == December AND IF **AMR Execution Plan Discussion** == null AND IF **AMR Execution Plan** == null	<Generate **AMR Execution Plan Discussion** with **CSDoT**, **CSAMR Owner**, **MAMR Owner**> AND <Create **AMR Execution Plan**>	The *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching*, *Computer Science's AMR Owner* and *Mathematics' AMR Owner* meet to discuss the annual module review process and create an *AMR Execution Plan* to help manage and direct the process for the academic year.
Review AMR Execution Plan			
02	IF **Review AMR Execution Plan Discussion** ≠ null	<Engage in **Review AMR Execution Plan Discussion** with **CSDoT**, **CSAMR Owner**, **MAMR Owner**> AND <Generate **AMR Execution Plan Update**> AND <Update **AMR Execution Plan** with **AMR Execution Plan Update**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Mathematics' AMR Owner*, and the *Computer Science's AMR Owner* review the *AMR Execution Plan* to ensure it takes into account the *Module Changes Deadline Date* received from the *University Registry*
Acknowledge Module Changes Deadline Date			
03	IF **Module Changes Deadline Date Notification** is received from **UR**	<Acknowledge the **Module Changes Deadline Date**>	*Mathematics' Director of Teaching* acknowledges the *Module Changes Deadline Date* received from the *University Registry*.
Identify deadline date for Lecturers to submit their proposed module changes & enhancements			
04	IF **Review AMR Execution Plan Discussion** concludes AND IF **Lecturer Deadline Date Discussion** == null AND IF **Lecturer Deadline Date** == null	<Generate **Lecturer Deadline Date Discussion** with **CSDoT**, **CSAMR Owner** and **MAMR Owner**> AND <Generate **Lecturer Deadline Date**>	The *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching*, *Computer Science's AMR Owner*, and the *Mathematics' AMR Owner* identify and agree on a deadline date in which all *Lecturers* must submit their proposed module changes and enhancements
Collection and Documentation debrief and synchronisation discussion			

05	IF **C&D Debrief Meeting** ≠ null	<Engage in **C&D Debrief Meeting** with **CSDoT**, **MAMR Owner** and **CSAMR Owner**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* debrief and ensure that they are all on the same page in terms of understanding the status and progress of the annual module review process, as the Collection and Documentation Phase concludes.

<table>
<tr><td colspan="4" align="center">Identify Board of Studies meeting date</td></tr>
<tr><td>06</td><td>IF month == January AND
IF Board of Studies Meeting Date Discussion == null AND
IF Board of Studies Meeting Date == null</td><td><Generate Board of Studies Meeting Date Discussion with CSDoT>
AND
<Generate Board of Studies Meeting Date></td><td>The <i>Computer Science's Director of Teaching</i> and the <i>Mathematics' Director of Teaching</i> identify a suitable meeting date for the joint <i>Board of Studies</i> to take place between the School of Mathematics and the School of Computer Science and Informatics</td></tr>
<tr><td colspan="4" align="center">Notify Board of Studies of decided meeting date</td></tr>
<tr><td>07</td><td>IF Board of Studies Meeting Date ≠ null AND
IF Board of Studies Meeting Date Notification == null</td><td><Generate Board of Studies Meeting Date Notification>
AND
<Add Board of Studies Meeting Date with Board of Studies Meeting Date Notification>
AND
<Send Board of Studies Meeting Date Notification to BoS></td><td>The <i>Computer Science's Director of Teaching / Mathematics' Director of Teaching</i> notifies the joint <i>Board of Studies</i> of the date in which the <i>Board of Studies</i> meeting will commence.</td></tr>
<tr><td colspan="4" align="center">Request Lecturers to prepare for Board of Studies meeting</td></tr>
<tr><td>08</td><td>IF Date == Board of Studies Meeting Date – 7 AND
IF Board of Studies Prepare Instruction == null</td><td><Generate Board of Studies Prepare Instruction>
AND
<Send Board of Studies Prepare Instruction to BoS></td><td>The <i>Mathematics' Director of Teaching</i> requests all <i>Lecturers</i> who are part of the <i>Board of Studies</i> to prepare for the <i>Board of Studies</i> meeting in a week's time, by requesting the members of the <i>Board of Studies</i> within the School of Mathematics to go on <i>Microsoft OneDrive</i> and read through all proposed module changes</td></tr>
<tr><td colspan="4" align="center">Notify Lecturer and College Quality Officer of identified Major Change</td></tr>
</table>

09	IF **Major Change Check** == MAJOR CHANGE IDENTIFIED AND IF **Major Change Identified Notification** == null	<Generate **Major Change Identified Notification**> AND <Send **Major Change Identified Notification** to **Lecturer*** and **CQO**>	*Mathematics' Director of Teaching* notifies the *College Quality Officer* and the *Lecturer** of an identified major change highlighted by the *Board of Studies* on a Mathematics' module.
	Identify solution to raised concern by Board of Studies		
10	IF **BoS Solution Discussion** ≠ null AND IF **BoS Solution** == null	<Engage in **BoS Solution Discussion** with **MAMR Owner** and **Lecturer***> AND <Generate **BoS Solution**>	The *Mathematics' AMR Owner*, *Mathematics' Director of Teaching* and the relevant *Lecturer** identify a solution to the concern raised by the *Board of Studies*.
	Consultation and Review debrief and synchronisation discussion		
11	IF **BoS Satisfaction Check** == SATISFIED OR IF **BoS Solution Notification** ≠ null AND IF **C&R Debrief Meeting** == null	<Generate **C&R Debrief Meeting** with **CSDoT**, **CSAMR Owner** and **MAMR Owner**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* debrief and ensure that they are all on the same page in terms of understanding the status and progress of the annual module review process, as the Consultation and Review Phase concludes.
	Collate list of approved module changes		
12	IF **C&R Debrief Meeting** concludes AND IF **List of Changes** == null	<Generate **List of Changes** from **Module X Documentation**>	The *Mathematics' Director of Teaching* collates a list of all *Board of Studies* approved Mathematics' module changes based on the updated module documentation for the *Office and Administration Team*.
	Send list of approved module changes to the Office and Administration Team		
13	IF **List of Changes** ≠ null AND IF **List of Changes Notification** == null	<Generate **List of Changes Notification**> AND <Add **List of Changes** to **List of Changes Notification**> AND <Send **List of Changes Notification** to **O&A Team**>	The *Mathematics' Director of Teaching* sends a list of collated changes based on Mathematics' module documentation to the *Office and Administration Team*.
	Upload all other mediums which do not pull data from SIMS with approved module changes		
	IF **Changes Uploaded Notification** is received from **O&A Team**	<Generate **Medium Update**> AND	The *Mathematics' Director of Teaching* updates all other mediums and platforms - which contain

14	AND IF **Medium Update** == null	<Update all other platforms and mediums with **Medium Update**>	module information that does not pull information automatically from *SIMS* for Mathematics modules - with the updated approved module changes where appropriate

Computer Science's Director of Teaching (CSDoT)			
#	Condition	Action / Task	Note
Create AMR Execution Plan			
15	IF **AMR Execution Plan Discussion** ≠ null AND IF **AMR Execution Plan** == null	<Engage in **AMR Execution Plan Discussion** with **MDoT**, **CSAMR Owner**, **MAMR Owner**> AND <Create **AMR Execution Plan**>	The *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching*, *Computer Science's AMR Owner* and *Mathematics' AMR Owner* meet to discuss the annual module review process and create an *AMR Execution Plan* to help manage and direct the process for the academic year.
Review AMR Execution Plan			
16	IF **Module Changes Deadline Date Notification** is received from **UR** AND IF **Review AMR Execution Plan Discussion** == null	<Generate **Review AMR Execution Plan Discussion** with **MDoT**, **CSAMR Owner**, **MAMR Owner**> AND <Generate **AMR Execution Plan Update**> AND <Update **AMR Execution Plan** with **AMR Execution Plan Update**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Mathematics' AMR Owner*, and the *Computer Science's AMR Owner* review the *AMR Execution Plan* to ensure it takes into account the *Module Changes Deadline Date* received from the *University Registry*
Acknowledge Module Changes Deadline Date			
17	IF **Module Changes Deadline Date Notification** is received from **UR**	<Acknowledge the **Module Changes Deadline Date**>	*Computer Science's Director of Teaching* acknowledges the *Module Changes Deadline Date* received from the *University Registry*.
Identify deadline date for Lecturers to submit their proposed module changes & enhancements			
18	IF **Lecturer Deadline Date Discussion** ≠ null AND IF **Lecturer Deadline Date** == null	<Engage in **Lecturer Deadline Date Discussion** with **MDoT**, **CSAMR Owner** and **MAMR Owner**> AND <Generate **Lecturer Deadline Date**>	The *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching*, *Computer Science's AMR Owner*, and the *Mathematics' AMR Owner* identify and agree on a deadline date in which all *Lecturers* must submit their

			proposed module changes and enhancements
Collection and Documentation debrief and synchronisation discussion		
19	IF Date == **Lecturer Deadline Date** AND IF **C&D Debrief Meeting** == null	<Generate **C&D Debrief Meeting** with **MDoT**, **MAMR Owner** and **CSAMR Owner**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* debrief and ensure that they are all on the same page in terms of understanding the status and progress of the annual module review process, as the Collection and Documentation Phase concludes.
Identify Board of Studies meeting date		
20	IF **Board of Studies Meeting Date Discussion** ≠ null AND IF **Board of Studies Meeting Date** == null	<Engage in **Board of Studies Meeting Date Discussion** with **MDoT**> AND <Generate **Board of Studies Meeting Date**>	The *Computer Science's Director of Teaching* and the *Mathematics' Director of Teaching* identify a suitable meeting date for the joint *Board of Studies* to take place between the School of Mathematics and the School of Computer Science and Informatics
Notify Board of Studies of decided meeting date		
21	IF **Board of Studies Meeting Date** ≠ null AND IF **Board of Studies Meeting Date Notification** == null	<Generate **Board of Studies Meeting Date Notification**> AND <Add **Board of Studies Meeting Date** with **Board of Studies Meeting Date Notification**> AND <Send **Board of Studies Meeting Date Notification** to **BoS**>	The *Computer Science's Director of Teaching* / *Mathematics' Director of Teaching* notifies the joint *Board of Studies* of the date in which the *Board of Studies* meeting will commence.
Request Lecturers to prepare for Board of Studies meeting		
22	IF Date == **Board of Studies Meeting Date** − 7 AND IF **Board of Studies Prepare Instruction** == null	<Generate **Board of Studies Prepare Instruction**> AND <Send **Board of Studies Prepare Instruction** to **BoS**>	The *Computer Science's Director of Teaching* requests all *Lecturers* who are part of the *Board of Studies* to prepare for the *Board of Studies* meeting in a week's time, by requesting the members of the *Board of Studies* within the School of Computer Science and Informatics to go on *Microsoft OneDrive* and read through all proposed module changes

Notify Lecturer and College Quality Officer of identified Major Change			
23	IF **Major Change Check** == MAJOR CHANGE IDENTIFIED AND IF **Major Change Identified Notification** == null	<Generate **Major Change Identified Notification**> AND <Send **Major Change Identified Notification** to **Lecturer*** and **CQO**>	*Computer Science's Director of Teaching* notifies the *College Quality Officer* and the *Lecturer** of an identified major change highlighted by the *Board of Studies* on a Computer Science's module.
Identify solution to raised concern by Board of Studies			
24	IF **BoS Solution Discussion** ≠ null AND IF **BoS Solution** == null	<Engage in **BoS Solution Discussion** with **CSAMR Owner** and **Lecturer***> AND <Generate **BoS Solution**>	The *Computer Science's AMR Owner*, *Computer Science's Director of Teaching* and the relevant *Lecturer** identify a solution to the concern raised by the *Board of Studies*.
Consultation and Review debrief and synchronisation discussion			
25	IF **BoS Satisfaction Check** == SATISFIED OR IF **BoS Solution Notification** ≠ null AND IF **C&R Debrief Meeting** == null	<Engage in **C&R Debrief Meeting** with **MDoT**, **CSAMR Owner** and **MAMR Owner**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* debrief and ensure that they are all on the same page in terms of understanding the status and progress of the annual module review process, as the Consultation and Review Phase concludes.
Collate list of approved module changes			
26	IF **C&R Debrief Meeting** concludes AND IF **List of Changes** == null	<Generate **List of Changes** from **Module X Documentation**>	The *Computer Science's Director of Teaching* collates a list of all *Board of Studies* approved Computer Science module changes based on the updated module documentation for the *Office and Administration Team*.
Send list of approved module changes to the Office and Administration Team			
27	IF **List of Changes** ≠ null AND IF **List of Changes Notification** == null	<Generate **List of Changes Notification**> AND <Add **List of Changes** to **List of Changes Notification**> AND <Send **List of Changes Notification** to **O&A Team**>	The *Computer Science's Director of Teaching* sends a list of collated changes based on Mathematics' module documentation to the *Office and Administration Team*.
Upload all other mediums which do not pull data from SIMS with approved module changes			

#	Condition	Action / Task	Note
28	IF **Changes Uploaded Notification** is received from **O&A Team** AND IF **Medium Update** == null	<Generate **Medium Update**> AND <Update all other platforms and mediums with **Medium Update**>	The *Computer Science's Director of Teaching* updates all other mediums and platforms - which contain module information that does not pull information automatically from *SIMS* for Computer Science modules - with the updated approved module changes where appropriate

Mathematics' AMR Owner (MAMR Owner)			
#	**Condition**	**Action / Task**	**Note**
Create AMR Execution Plan			
29	IF **AMR Execution Plan Discussion** ≠ null AND IF **AMR Execution Plan** == null	<Engage in **AMR Execution Plan Discussion** with **MDoT**, **CSAMR Owner**, **CSDoT**> AND <Create **AMR Execution Plan**>	The *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching*, *Computer Science's AMR Owner* and *Mathematics' AMR Owner* meet to discuss the annual module review process and create an *AMR Execution Plan* to help manage and direct the process for the academic year.
Acknowledge Module Changes Deadline Date			
30	IF **Module Changes Deadline Date Notification** is received from **UR**	<Acknowledge the **Module Changes Deadline Date**>	*Mathematics' AMR Owner* acknowledges the *Module Changes Deadline Date* received from the *University Registry*.
Review AMR Execution Plan			
31	IF **Review AMR Execution Plan Discussion** ≠ null	<Engage in **Review AMR Execution Plan Discussion** with **MDoT**, **CSAMR Owner**, **CSDoT**> AND <Generate **AMR Execution Plan Update**> AND <Update **AMR Execution Plan** with **AMR Execution Plan Update**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Mathematics' AMR Owner*, and the *Computer Science's AMR Owner* review the *AMR Execution Plan* to ensure it takes into account the *Module Changes Deadline Date* received from the *University Registry*
Identify deadline date for Lecturers to submit their proposed module changes & enhancements			
32	IF **Lecturer Deadline Date Discussion** ≠ null AND IF **Lecturer Deadline Date** == null	<Engage in **Lecturer Deadline Date Discussion** with **MDoT**, **CSAMR Owner** and **CSDoT**> AND	The *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching*, *Computer Science's AMR Owner*, and the *Mathematics' AMR Owner* identify

		<Generate **Lecturer Deadline Date**>	and agree on a deadline date in which all *Lecturers* must submit their proposed module changes and enhancements
	Notify Lecturer to complete module review and proposal of changes and enhancements		
33	IF **Lecturer Deadline Date** ≠ null AND IF **Complete Module Review Notification** == null	<Generate **Complete Module Review Notification**> AND <Add **Lecturer Deadline Date** to **Complete Module Review Notification**> AND <Send **Complete Module Review Notification** to **Lecturer***>	The *Mathematics' AMR Owner* contacts the *Lecturers* within the School of Mathematics to complete their module review and update the relevant module documentation with their proposed changes by the *Lecturer Deadline Date*.
	Acknowledge Lecturer has completed updating module documentation with proposed changes		
34	IF **Module Changes Completed Notification** is received from **Lecturer***	<Acknowledge the **Lecturer*** has concluded updating **Module X Documentation** with **Module X Changes**>	*Mathematics' AMR Owner* acknowledges that the *Lecturer** from the School of Mathematics has completed updating the module documentation with their proposed module changes and enhancements.
	Collection and Documentation debrief and synchronisation discussion		
35	IF **C&D Debrief Meeting** ≠ null	<Engage in **C&D Debrief Meeting** with **CSDoT**, **MDoT** and **CSAMR Owner**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* debrief and ensure that they are all on the same page in terms of understanding the status and progress of the annual module review process, as the Collection and Documentation Phase concludes.
	Identify solution to raised concern by Board of Studies		
36	IF **BoS Satisfaction Check** == NOT SATISFIED AND IF **BoS Solution Discussion** == null AND IF **BoS Solution** == null	<Generate **BoS Solution Discussion** with **MDoT** and **Lecturer***> AND <Generate **BoS Solution**>	The *Mathematics' AMR Owner*, *Mathematics' Director of Teaching* and the relevant *Lecturer** identify a solution to the concern raised by the *Board of Studies*.
	Check if identified solution requires an update to module documentation		
	IF **BoS Solution** ≠ null AND	<Generate **Documentation Update Check**>	The *Mathematics' AMR Owner* checks if the identified solution to raised

37	IF **Documentation Update Check** == null	AND <Apply **Documentation Update Check** against **BoS Solution**>	concern from the *Board of Studies* in regard to a Mathematics' proposed module changes, requires the update module documentation to ensure it reflects accurately. If the module documentation does require updating, then **Documentation Update Check** == UPDATE REQUIRED If the module documentation does NOT require updating, then **Documentation Update Check** == UPDATE NOT REQUIRED
	Update module documentation to reflect the identified solution to a BoS concern		
38	IF **Documentation Update Check** == UPDATE REQUIRED AND IF **Solution Document Update** == null	<Generate **Solution Document Update**> AND <Update **Module X Documentation** with **Solution Document Update**>	*Mathematics' AMR Owner* updates the module documentation to reflect the identified solution to a *Board of Studies* raised concern.
	Notify the Board of Studies of the identified solution to the raised concern		
39	IF **Documentation Update Check** == UPDATE NOT REQUIRED AND IF **Module X Documentation** has been updated with **Solution Document Update** AND IF **BoS Solution Notification** == null	<Generate **BoS Solution Notification**> AND <Send **BoS Solution Notification** to **BoS**>	*Mathematics' AMR Owner* notifies the *Board of Studies* of the solution identified for a raised concern in regard to a proposed module change for a Mathematics' module.
	Consultation and Review debrief and synchronisation discussion		
40	IF **BoS Satisfaction Check** == SATISFIED OR IF **BoS Solution Notification** ≠ null AND IF **C&R Debrief Meeting** == null	<Engage in **C&R Debrief Meeting** with **MDoT**, **CSAMR Owner** and **CSDoT**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* debrief and ensure that they are all on the same page in terms of understanding the status and progress of the annual module

			review process, as the Consultation and Review Phase concludes.

Computer Science's AMR Owner (CSAMR Owner)			
#	Condition	Action / Task	Note
Create AMR Execution Plan			
41	IF **AMR Execution Plan Discussion** ≠ null AND IF **AMR Execution Plan** == null	<Engage in **AMR Execution Plan Discussion** with **MDoT**, **MAMR Owner**, **CSDoT**> AND <Create **AMR Execution Plan**>	The *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching*, *Computer Science's AMR Owner* and *Mathematics' AMR Owner* meet to discuss the annual module review process and create an *AMR Execution Plan* to help manage and direct the process for the academic year.
Acknowledge Module Changes Deadline Date			
42	IF **Module Changes Deadline Date Notification** is received from **UR**	<Acknowledge the **Module Changes Deadline Date**>	*Computer Science's AMR Owner* acknowledges the *Module Changes Deadline Date* received from the *University Registry*.
Review AMR Execution Plan			
43	IF **Review AMR Execution Plan Discussion** ≠ null AND IF AMR Execution Plan Update == null	<Engage in **Review AMR Execution Plan Discussion** with **MDoT**, **MAMR Owner**, **CSDoT**> AND <Generate **AMR Execution Plan Update**> AND <Update **AMR Execution Plan** with **AMR Execution Plan Update**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Mathematics' AMR Owner*, and the *Computer Science's AMR Owner* review the *AMR Execution Plan* to ensure it takes into account the *Module Changes Deadline Date* received from the *University Registry*
Identify deadline date for Lecturers to submit their proposed module changes & enhancements			
44	IF **Lecturer Deadline Date Discussion** ≠ null AND IF **Lecturer Deadline Date** == null	<Engage in **Lecturer Deadline Date Discussion** with **MDoT**, **MAMR Owner** and **CSDoT**> AND <Generate **Lecturer Deadline Date**>	The *Mathematics' Director of Teaching*, *Computer Science's Director of Teaching*, *Computer Science's AMR Owner*, and the *Mathematics' AMR Owner* identify and agree on a deadline date in which all *Lecturers* must submit their proposed module changes and enhancements
Notify Lecturer to complete module review and proposal of changes and enhancements			

45	IF **Lecturer Deadline Date** ≠ null AND IF **Complete Module Review Notification** == null	<Generate **Complete Module Review Notification**> AND <Add **Lecturer Deadline Date** to **Complete Module Review Notification**> AND <Send **Complete Module Review Notification** to **Lecturer***>	The *Computer Science's AMR Owner* contacts the *Lecturers* within the School of Computer Science and Informatics to complete their module review and update the relevant module documentation with their proposed changes by the *Lecturer Deadline Date*.
Acknowledge Lecturer has completed updating module documentation with proposed changes			
46	IF **Module Changes Completed Notification** is received from **Lecturer***	<Acknowledge the **Lecturer*** has concluded updating **Module X Documentation** with **Module X Changes**>	*Computer Science's AMR Owner* acknowledges that the *Lecturer** from the School of Computer Science and Informatics has completed updating the module documentation with their proposed module changes and enhancements.
Collection and Documentation debrief and synchronisation discussion			
47	IF **C&D Debrief Meeting** ≠ null	<Engage in **C&D Debrief Meeting** with **CSDoT**, **MDoT** and **MAMR Owner**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* debrief and ensure that they are all on the same page in terms of understanding the status and progress of the annual module review process, as the Collection and Documentation Phase concludes.
Identify solution to raised concern by Board of Studies			
48	IF **BoS Satisfaction Check** == NOT SATISFIED AND IF **BoS Solution Discussion** == null AND IF **BoS Solution** == null	<Generate **BoS Solution Discussion** with **CSDoT** and **Lecturer***> AND <Generate **BoS Solution**>	The *Computer Science's AMR Owner*, *Computer Science's Director of Teaching* and the relevant *Lecturer** identify a solution to the concern raised by the *Board of Studies*.
Check if identified solution requires an update to module documentation			
	IF **BoS Solution** ≠ null AND IF **Documentation Update Check** == null	<Generate **Documentation Update Check**> AND <Apply **Documentation Update Check** against **BoS Solution**>	The *Computer Science's AMR Owner* checks if the identified solution to raised concern from the *Board of Studies* in regard to a Computer Science proposed module change, requires the update module

49			documentation to ensure it reflects accurately. If the module documentation does require updating, then **Documentation Update Check** == UPDATE REQUIRED If the module documentation does NOT require updating, then **Documentation Update Check** == UPDATE NOT REQUIRED
	Update module documentation to reflect the identified solution to a BoS concern		
50	IF **Documentation Update Check** == UPDATE REQUIRED AND IF **Solution Document Update** == null	<Generate **Solution Document Update**> AND <Update **Module X Documentation** with **Solution Document Update**>	*Computer Science's AMR Owner* updates the module documentation to reflect the identified solution to a *Board of Studies* raised concern.
	Notify the Board of Studies of the identified solution to the raised concern		
51	IF **Documentation Update Check** == UPDATE NOT REQUIRED AND IF **Module X Documentation** has been updated with **Solution Document Update** AND IF **BoS Solution Notification** == null	<Generate **BoS Solution Notification**> AND <Add **BoS Solution** to **BoS Solution Notification**> AND <Send **BoS Solution Notification** to **BoS**>	*Computer Science's AMR Owner* notifies the *Board of Studies* of the solution identified for a raised concern in regard to a proposed module change for a Mathematics' module.
	Consultation and Review debrief and synchronisation discussion		
52	IF **BoS Satisfaction Check** == SATISFIED OR IF **BoS Solution Notification** ≠ null AND IF **C&R Debrief Meeting** == null	<Engage in **C&R Debrief Meeting** with **MDoT**, **MAMR Owner** and **CSDoT**>	The *Computer Science's Director of Teaching*, the *Mathematics' Director of Teaching*, the *Computer Science's AMR Owner* and the *Mathematics' AMR Owner* debrief and ensure that they are all on the same page in terms of understanding the status and progress of the annual module review process, as the Consultation and Review Phase concludes.

Lecturers			
<u>#</u>	<u>Condition</u>	<u>Action / Task</u>	<u>Note</u>
Locate relevant module documentation			
53	IF **Complete Module Review Notification** is received from **CSAMR Owner / MAMR Owner** AND IF Date <= **Lecturer Deadline Date** AND IF teaches **Module X**	<Locate **Module X Documentation** on **Microsoft OneDrive**>	*Lecturer** within the School of Computer Science and Informatics or the School of Mathematics locate the relevant module documentation on *Microsoft OneDrive*, for the modules the *Lecturer** teaches.
Input and submit proposed module changes and enhancements			
54	IF **Module X Documentation** is located on **Microsoft OneDrive** AND IF **Module X Changes** == null	<Generate **Module X Changes**> AND <Update **Module X Documentation** with **Module X Changes**>	*Lecturer** updates the relevant module documentation with their proposed module changes and enhancements.
Notify AMR Owner of updated module documentation with proposed module enhancements			
55	IF **Module X Documentation** has been updated with **Module X Changes** AND IF **Module Changes Completed Notification** == null	<Generate **Module Changes Completed Notification**> AND <Send **Module Changes Completed Notification** to **CSAMR Owner / MAMR Owner**>	*Lecturer** notifies their relevant *AMR Owner* that all module documentation has been updated with proposed module changes and enhancements. If the *Lecturer** is a member of the School of Computer Science and Informatics, the *Lecturer** notifies the *Computer Science's AMR Owner* If the *Lecturer** is a member of the School of Mathematics, the *Lecturer** notifies the *Mathematics' AMR Owner*
Major Change Identified: Next Steps			
56	IF **Major Change Identified Notification** is received from **CSAMR Owner / MAMR Owner**	<Understand the instructions as outlined in the **Major Change Identified Notification**>	*Lecturer** receives notification that one of their proposed module changes is classed as a Major proposal. As a result, the approval of that change will now be managed via a separate process, which is owned

#	Condition	Action / Task	Note
			by the *College Quality Officer* at College level.
Identify solution to raised concern by Board of Studies (M)			
57	IF **BoS Solution Discussion** ≠ null AND IF **BoS Solution** == null	<Engage in **BoS Solution Discussion** with **MAMR Owner** and **MDoT**> AND <Generate **BoS Solution**>	The *Mathematics' AMR Owner*, *Mathematics' Director of Teaching* and the relevant *Lecturer** identify a solution to the concern raised by the *Board of Studies*.
Identify solution to raised concern by Board of Studies (CS)			
58	IF **BoS Solution Discussion** ≠ null AND IF **BoS Solution** == null	<Engage in **BoS Solution Discussion** with **CSAMR Owner** and **CSDoT**> AND <Generate **BoS Solution**>	The *Computer Science's AMR Owner*, *Computer Science's Director of Teaching* and the relevant *Lecturer** identify a solution to the concern raised by the *Board of Studies*.

Board of Studies (BoS)			
#	**Condition**	**Action / Task**	**Note**
Acknowledge the Board of Studies meeting date			
59	IF **Board of Studies Meeting Date Notification** is received from **CSDoT / MDoT**	<Acknowledge and record the **Board of Studies Meeting Date Notification**>	The *Board of Studies* acknowledge, record and take note of the planned joint *Board of Studies* meeting date.
Prepare for the Board of Studies meeting			
60	IF **Board of Studies Prepare Instruction** is received from **CSDoT / MDoT**	<Research and read **Module X Documentation** on **Microsoft OneDrive**>	Members of the *Board of Studies* which include *Lecturers* from both Schools of the Computer Science and Informatics and the School of Mathematics, go on to *Microsoft OneDrive*, examine and read through the proposed module changes and enhancements in preparation for the *Board of Studies* meeting in a week's time.
Board of Studies Meeting occurs			
61	IF DATE == **Board of Studies Meeting Date** AND IF **BoS Meeting** == null	<**BoS Meeting** commences>	The joint *Board of Studies* meeting between the School of Computer Science and Informatics and the School of Mathematics takes place

	Check for possibly proposed Major module changes		
62	IF **BoS Meeting** ≠ null AND IF **Major Change Check** == null	<Generate **Major Change Check**> AND <Apply **Major Change Check** against **Module X Documentation**>	The *Board of Studies* works their way through the proposed module changes throughout both Schools, first check if any of the proposed module changes are classed as major rather than minor. If the *Board of Studies* identify a proposed major change, then **Major Change Check** == MAJOR CHANGE IDENTIFIED If the *Board of Studies* identify a proposed major change, then **Major Change Check** == MAJOR CHANGE NOT IDENTIFIED
	Are the Board of Studies satisfied with the proposed module changes?		
63	IF **Major Change Check** == MAJOR CHANGE NOT IDENTIFIED OR IF **Major Change Identified Notification** ≠ null AND IF **BoS Satisfaction Check** == null	<Generate **BoS Satisfaction Check**> AND <Apply **BoS Satisfaction Check** against **Module X Documentation**>	The *Board of Studies* works their way through the proposed module changes throughout both Schools and conduct a final check to confirm they are all satisfied with the proposed module changes, and there are no significant concerns. If the *Board of Studies* are satisfied with the proposed module changes, then **BoS Satisfaction Check** == SATISFIED If the *Board of Studies* are NOT satisfied with the proposed module changes, then **BoS Satisfaction Check** == NOT SATISFIED
	Acknowledge the identified solution for a Board of Studies concern		
64	IF **BoS Solution Notification** is received from **CSAMR Owner / MAMR Owner**	<Acknowledge the **BoS Solution**>	The *Board of Studies* acknowledges and examines the identified solution from the respective *AMR Owner*, in regard to a concern raised for a proposed module change.

Office and Administration Team (O&A Team)

#	Condition	Action / Task	Note
	Complete submission and upload of approved module changes into SIMS		
65	IF **List of Changes Notification** is received from **CSDoT / MDoT**	<Upload **List of Changes** into **SIMS**>	*Office and Administration Team* upload all approved *Board of Studies* changes as outlined in the *List of Changes* into *SIMS*.
	Notify Directors of Teaching of the completion of uploading module changes into SIMS		
66	IF **List of Changes** has been uploaded into **SIMS** AND IF **Changes Uploaded Notification** == null	<Generate **Changes Uploaded Notification**> AND <Send **Changes Uploaded Notification** to **CSAMR Owner / MAMR Owner**>	*Office and Administration Team* notify the *Computer Science's Director of Teaching* and the *Mathematics' Director of Teaching* that all approved module changes have been uploaded into *SIMS*.

College Quality Officer (CQO)

#	Condition	Action / Task	Note
	Major Change Identified: Implement and Execute Major Change Policy		
67	IF **Major Change Identified Notification** is received from **CSAMR Owner / MAMR Owner**	<Implement **Major Change Policy**>	*College Quality Officer* implements the *Major Change Policy* via College level which commences a separate process to this one.

University Registry

#	Condition	Action / Task	Note
	Identify deadline date for Schools' to upload approved module changes into SIMS		
68	IF month == January AND IF **Module Changes Deadline Date** == null	<Generate **Module Changes Deadline Date**>	*University Registry* decides a date in which all Schools within Cardiff University, including the School of Computer Science and Informatics and the School of Mathematics must upload and submit their approved module changes and enhancements into *SIMS* by.
	Notify Schools of Module Changes Deadline Date		
	IF **Module Changes Deadline Date** ≠ null AND	<Generate **Module Changes Deadline Date Notification**> AND <Add **Module Changes Deadline Date** to **Module**	*University Registry* notifies all Schools within Cardiff University, including the School of Computer Science and Informatics and the School of Mathematics of the deadline date in

| 69 | IF **Module Changes Deadline Date Notification** == null | **Changes Deadline Date Notification>** AND <Send **Module Changes Deadline Date** to **CSDoT**, **MDoT**, **CSAMR Owner** and **AMR Owner>** | which all approved module changes and enhancements must be uploaded into *SIMS* by. |

There is a total of 69 business rules for the Speediness and Expedition Oriented Integrated Annual Module Review Process.

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