



## Programme Management Office

# Project Charter & Scope Statement

<b>Project Title:</b>	Programme & Module Data Integration
<b>Project ID:</b>	
<b>Project Sponsor:</b>	Brian Norton, President
<b>Project Manager:</b>	Liam Duffy, IS Services
<b>Charter approval date:</b>	

### Document Control

Date	Version	Changed by	Reasons for Change
30-01-12	v0.1	Liam Duffy	Original Document
02-02-12	V2.0	Liam Duffy	Consultation with Sponsor

### Distribution List

Name	Role	eMail
Brian Norton	Sponsor	<a href="mailto:president@dit.ie">president@dit.ie</a>
David Scott	CISO	<a href="mailto:david.scott@dit.ie">david.scott@dit.ie</a>
Michael Mulvey	Director, Academic Affairs	<a href="mailto:michael.mulvey@dit.ie">michael.mulvey@dit.ie</a>
Noel O'Connor	Director, Student Services	<a href="mailto:noel.oconnor@dit.ie">noel.oconnor@dit.ie</a>
Paul Flynn	Director, Finance	<a href="mailto:paul.flynn@dit.ie">paul.flynn@dit.ie</a>
Brendan Ruddy	Operations Manager, Academic Affairs	<a href="mailto:brendan.ruddy@dit.ie">brendan.ruddy@dit.ie</a>
Jane Murphy	PMO	<a href="mailto:jane.murphy@dit.ie">jane.murphy@dit.ie</a>
Margaret Whelan	SDST	<a href="mailto:margaret.whelan@dit.ie">margaret.whelan@dit.ie</a>

1. PROJECT ORGANISATION	
<b>1.1 PROJECT SPONSOR</b>  <i>The Project Sponsor is the client side representative who acts as a single focal point of contact with the project manager for the day-to-day management of the interests of the project. The person in this role must have adequate knowledge and information about the business and the project to be able to make informed decisions.</i>	Brian Norton, President
<b>1.2 PROJECT MANAGER:</b>  <i>The Project Manager is the individual responsible for delivering the project. The Project Manager leads and manages the project team, with the authority and responsibility to run the project on a day-to-day basis.</i>	Liam Duffy, Senior Project Manager, IS Services
<b>1.3 PROJECT BOARD MEMBERS:</b>  <i>Project board members should be formally appointed with specific remit to assist in decision-making and on-going progress of the project.</i>	<ul style="list-style-type: none"> <li>• Brendan Ruddy, Academic Affairs</li> <li>• Jennifer Farrell, Student Services</li> <li>• Marie, Kennedy, SDST</li> <li>• Andy Myler, Fees &amp; Incomes</li> <li>• Gillian Donagher, IS Development</li> </ul>
<b>1.4 PROJECT BOARD RESPONSIBILITIES</b> (if different from agreed responsibilities on ISPMO website)	<ul style="list-style-type: none"> <li>• Represent the function(s) who s/he represents and ensure that effective communications and feedback to stakeholders.</li> <li>• Make key decisions on behalf of the function(s) whose interests s/he is representing on the Board.</li> <li>• Make board level decisions and promote the implementation of all project decisions.</li> <li>• Take individual responsibility as required to resolve key issues.</li> <li>• Provide demonstrable support to the Project Manager, partners, team and the user community</li> </ul>
<b>1.5 RESOURCES PREASSIGNED:</b>	<i>How many or what resources will be assigned to the project?</i>
<p style="color: red; font-weight: bold;"><i>Level of involvement of Academic Affairs &amp; IS Development Staff is expected to be high, requires detailed planning to measure</i></p> <ul style="list-style-type: none"> <li>• Academic Affairs               <ul style="list-style-type: none"> <li>- Quality Assurance (High)</li> </ul> </li> <li>• Student Services               <ul style="list-style-type: none"> <li>- Registrations</li> <li>- Exams</li> <li>- Timetabling</li> </ul> </li> </ul>	

<ul style="list-style-type: none"> <li>• Colleges Managers</li> <li>• Finance &amp; Resources           <ul style="list-style-type: none"> <li>- Fees &amp; Incomes</li> <li>- IS Development Staff (High)</li> </ul> </li> <li>• Strategic Development Services</li> </ul>	
<b>1.6 STAKEHOLDERS:</b>	<i>Who will affect, or be affected by, the project (influence the project) as known to date? Please provide details.</i>
<ul style="list-style-type: none"> <li>• Academic Affairs &amp; Registrar</li> <li>• All Colleges</li> <li>• Student Services (Registrations, Exams &amp; Timetabling)</li> <li>• IS Services</li> <li>• Office of the President</li> </ul>	
<i>Further details of Roles &amp; Responsibilities available on the "Project Roles" pages of the ISPMO website.</i>	
<b>2. SCOPE STATEMENT</b>	
<b>2.1 SCOPE</b>	<i>The scope should define the boundaries of the project. What is included in the project? Only work specified in this document is included in the project.</i>
<ul style="list-style-type: none"> <li>• Provide a mechanism of obtaining consistent programme and module data across all IS system (List of systems affected see appendix 1)</li> <li>• Agree required business process around programme, module and related data approval and entry to systems</li> <li>• Have a single point of entry for all programme and module data including CRN's and components</li> <li>• Verify and correct all existing data</li> <li>• Control programme, module data (incl. CRN's and components), approval and entry to systems to the Academic Affairs and Registrar following Academic Council approval</li> <li>• Reflect programme, module data within the current Organisational Structure of DIT i.e. the College Structure</li> <li>• Remove all user rights to create, change or delete programme, module or related data from IS Systems other than through the Quality Assurance Office</li> </ul>	
<b>2.2 OUT OF SCOPE</b>	<i>Please provide a clear statement of what this project will not include</i>
<ul style="list-style-type: none"> <li>• Integration of third party systems Campus IT &amp; Apply on Line with the Banner Student System</li> <li>• Virtual University</li> </ul>	
<b>2.3 DELIVERABLES KNOWN</b>	<i>List the high level project outputs whose satisfactory delivery mark the completion of the project i.e. Tender \ supplier agreed, working computer code, user training.</i>
<b><i>Cannot complete this section without detailed discussion with the primary stakeholders</i></b>	
<ul style="list-style-type: none"> <li>•</li> </ul>	

<b>2.4 PROJECT SUCCESS</b>	<i>Specify what must be done in order for the project to be considered a success by its stakeholders.</i>
<b><i>Cannot complete this section without detailed discussion with the primary stakeholders</i></b>	
•	

<b>3. REQUIREMENTS \ ASSUMPTIONS \ CONSTRAINTS \ DEPENDENCIES \ RISKS</b>	
<b>3.1 STAKEHOLDER REQUIREMENTS</b>	<i>Please describe any additional features that describe the desirable outcome of the project.</i>
<b><i>Cannot complete this section without detailed discussion with the primary stakeholders</i></b>	
•	
<b>3.2 ASSUMPTIONS</b>	<i>These are items which are uncertain and are presumed about the project</i>
<ul style="list-style-type: none"> <li>• This project is the number one priority project for 2102 [Agreed by Facilities, IT &amp; Procurement Committee – 17<sup>th</sup> January 2012)</li> <li>• Coursewise is the definitive source of data [See also constraints]</li> <li>• Resources (Financial and Staff) will be made available to the project when required and in a timely manner</li> <li>• Decisions will be made in a timely manner</li> <li>• Interdependencies between projects will be managed</li> <li>• Data will be available by the required dates</li> </ul>	
<b>3.3 CONSTRAINTS</b>	<i>These are items which are known and impose restrictions on the project, i.e. Time, Resources, Cost,</i>
<ul style="list-style-type: none"> <li>• Project timeline fixed at 30<sup>th</sup> June 2012 for completion</li> <li>• Coursewise is the definitive source of data, this may impact on how we progress [See also Assumptions]</li> <li>• Project is being implemented on multiple moving targets (Coursewise, Banner, CMIS etc.) e.g. CMIS is currently being upgraded</li> <li>• Banner term roll needs to occur after 20<sup>th</sup> June and before 30<sup>th</sup> June and some changes cannot happen until after that period we may therefore have to phase some implementation</li> <li>• CMIS Term Roll occurs in late April, programme &amp; module data for the coming year should be available at that time</li> <li>• CAO loads must commence in July and all programme data needs to be in Banner for that time, hence 30<sup>th</sup> June is fixed</li> <li>• Automating some processes may be cost prohibitive and extremely difficult to achieve, this needs to be assessed</li> <li>• Department of Finance Directives 02/09 and 02/11 – adherence to will lead to time delays</li> </ul>	

<b>3.4 DEPENDENCIES</b>	<i>A dependency is an item outside of the projects direct control but on which it depends and without which time, cost or quality will be affected.</i>
<ul style="list-style-type: none"> <li>• NQAI Review and related projects [dependencies need to be assessed]</li> <li>• HEA Returns Project – Needs to be completed</li> <li>• Agresso and Core Projects – Organisational Structure feeds to Banner through interfaces</li> </ul>	

<b>3.5 RISKS</b>	<i>A risk is any item outside of the projects direct control which may affect the successful delivery of the project, or may impact negatively on the project timescale, cost or quality.</i>
<p><b><i>Risks not listed in any particular order of magnitude</i></b></p> <ul style="list-style-type: none"> <li>• Banner System and its related hardware / software is currently in a de-support status, it is never advisable to develop in an un-supported environment – See Appendix 4</li> <li>• Banner 8.5 project may constrain what we can achieve</li> <li>• Development completed in Banner 7.4 environment needs to be upgraded / re-developed for Banner 8.5 environment, may require us to change how the interface will work for a Banner 8 environment</li> <li>• NQAI Review requirements (Projects under this initiative are not currently defined and have conflicting timelines) – Appendix 5</li> <li>• All other projects on the Facilities, IT &amp; Procurement Committee approved list for 2012 and the demands they place on resources and timelines</li> <li>• Project timelines are extremely aggressive</li> <li>• Insufficient time to adequately plan project or assess options</li> <li>• Availability of resources including external resources as there are lead times of 2 to 3 months on booking external resources</li> <li>• Timelines for required procurement process is likely to be months</li> <li>• Operational demands on staff (IS &amp; Functional) may impact on their availability for project related work</li> <li>• Changes in the Organisational Structure will affect multiple systems and needs to be synchronised as a change in one system may cause the interfaces between the systems to fail</li> </ul>	

#### 4. PROJECT CHARTER APPROVAL

I have read the information contained in the charter document and recommend approval to proceed:

Name	Signature	Date
Approval signature (Project Sponsor)		
Approval signature (Project Manager)		

# Appendices

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## APPENDIX 1- IS SYSTEMS POTENTIALLY AFFECTED BY PROJECT

- |  |                             |
|--|-----------------------------|
| • Programme & Module Catalogue             | - Coursewise                |
| • Student & Academic Records               | - Banner                    |
| • Timetabling                              | - CMIS                      |
| • E-Learning                               | - Web Courses               |
| • Diploma Supplement                       | - Digitary                  |
| • Student Admissions (Programme data only) | - Campus IT & Apply on-line |
| • TLT Grants System                        | - TLT                       |
| • HR / Payroll & Student ID Card           | - Corehr                    |
| • HEA Returns                              |                             |

*NOTE: DURING THE PROJECT OTHER SYSTEMS MAY BE IDENTIFIED*

## APPENDIX 2 – BRIEF DATA COMPARISON

### Programmes [Data as of 3pm 27<sup>th</sup> Jan 2012]

- There are 307 programmes in Coursewise.
- There were 336 programmes returned to the HEA in October with students attached.
- There are currently 372 programmes with registered Students in Banner
- There are currently 622 Programmes in CMIS

### Modules [Data as of 3pm 27<sup>th</sup> Jan 2012]

- Hard to map due to lack of CRNs in coursewise
- There are 5,179 modules in Coursewise
- There are 3,253 modules in Banner with at least 1 student registered for the current term (Noting S2 Students probably not registered)
- There are 6,958 modules setup in Banner for 201112 (likely a lot not in use)
- There are currently 9,299 Modules in CMIS

NOTE: A random selection of two programmes from each of the four colleges was carried out to do a three way comparison between the Programme Documents, Coursewise and Banner. Significant differences were identified.

## APPENDIX 3- INTEGRATION OPTIONS PRESENTED BY SUNGARDHE

### Coursewise integration options

Coursewise <http://modulecatalogue.hosting.heanet.ie/catalogue/> is an application developed locally at DIT by Academic Affairs that displays programme and module information to students, prospects and staff. Through a login screen academic staff (or those authorised) can set up new programmes and modules, and maintain them. At present the application is being used as a point of reference only and is not integrated with any other systems.

DIT wants to use Coursewise as a single point of entry for all programme and module information. Coursewise is then to be integrated with Banner so data is consistent. Data will also be used in other DIT systems (e.g. CMIS and Raisers Edge). These systems currently feed from Banner.

Coursewise has been developed in the past two years outside DIT's usual framework and it now needs to be brought into the fold and will be managed by Information Services. It has been developed using Django but at this stage there is not a full understanding of the database behind it including the data structures. Coursewise currently has a single point of failure, limited documentation and no test instance. Information Services need to spend time discovering more about Coursewise to be able to support it in the short term at least whilst the integration options are being considered.

The project deadline is June 2012 and this is the single most important project Information Services is to work on.

I agree there should be one single point of entry for all programme and module information, yet I also believe we need to consider the approvals process for quality assurance reasons. The detailed requirements of this project are still to be specified but I think the options to consider are:

1. An integration between Coursewise and Banner using the Infinity Process Platform (IPP) as the integration tool
2. Implementation of a new version of Coursewise using the Programme and Modules Approvals system developed through Infinity Process Platform (IPP) as a basis
3. Implementation of a new version of Coursewise using the Programme Catalogue delivered in Banner and enhancements using the Self Service Engine

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Follow-up Report DIT Confidential and Proprietary  
Follow-up Report Cheryl McGahey 24<sup>th</sup> January 2012

## Option 1: Integration between Coursewise and Banner using IPP as the integration tool

This option utilises the existing Coursewise as the single entry point for programme and module data entry and maintenance, and uses the IPP tool to integrate with Banner.

Firstly, a full technical analysis of Coursewise would be required to see if it can be turned into a fully supported application by Information Services. Concerns already include:

- Development has been done outside DIT's usual framework
- Lack of knowledge and skill set to support Django
- Lack of information on longevity of Django
- Limited documentation
- Lack of a test system

Once this analysis is complete, Information Services will need to decide if this is a technically viable and strategic way forward. If this is not the case, one of the other options should be followed or the cost of bringing Coursewise to the required standards needs to be calculated (if indeed this is possible) and used in the decision making process.

If Information Services agree this is a technically viable and strategic way forward, a full functional analysis would be required to see if it meets the needs of the users. The analysis should involve discussions with all stakeholders, including;

- Coursewise users with logins
- Representative staff and prospects and students that use the Coursewise live webpage
- Those involved in quality assurance at institution, college and school level
- Those that would hope to use Coursewise outputs in their systems in the future

Analysis should involve finding out who currently uses Coursewise and what they like and do not like about the system, and whether it supports them to do their job in relation to programme and module set up and maintenance. Concerns already include:

- Module and programme codes – where are these coming from? Any free text entry? Does it validate to check if the code already exists?
- Lists of values behind certain fields – can individuals create a new school for example if they need this? Is there not validation processing behind this? Or is creation restricted to selected users?
- Lack of validation behind many important fields (e.g. level – it seems free text can be entered here) which can impact quality of data and make further reporting and integrations very difficult
- Lack of validation controlling whether data entry should be a number/date/text
- Validation of staff numbers - Is there a link with the HR system? If not, where do the numbers come from?



- When data is linked and relationships created, free text seems to be used and there seems to be no validation. For example, when pre-requisites modules are added to a module, it looks like you cannot select the module; you have to type in module code or title. A lack of such data structures will make it difficult to integrate with other systems without manual intervention.
- It seems an assumption has been made that assessment is part of the module on a one to one basis. Can you not have more than one occurrence of the course which may follow a different form of assessment? Or would this be classed as a separate module at DIT? It is important to define what constitutes a module and what part of it has been through the approval process, and how often and when it is allowed to change.
- Access rights and the control over who can change data
- Use of other systems to support the process (Excel spreadsheets, Word documents, other databases, etc)
- Difficulty in reporting?
- Limited reporting?
- Different approach to reporting – not Business Objects, so how does this impact strategic vision?
- Lack of audit history for changes?
- Usability and workflow
- Approval process – apart from some dates and approval flags nothing is known about the approval process for initiating, creating and changing programmes and modules that would come before the data entry into Coursewise. I presume this data is already collated in some manner and passed to different internal and external people for approval? Is this a paper based exercise or is another system used? If data has already been entered somewhere it may be worth investigating whether it can be used as an input so academics do not have to enter the data again or could Coursewise be used as the

Once the functional analysis has been done, a full data review is required. I would advise all data fields are looked at. The following needs to be considered:

- Accuracy of data
- Completeness of data
- Approval of data

I understand not all colleges and schools are using Coursewise as the authoritative source of data at present so such an activity is essential if integration with Banner is the option DIT progress with. The team were able to show me some comparisons between data held in programme documents, in Coursewise and in Banner and there were many discrepancies.

If following the technical, functional and data analysis DIT wish to progress with the option of utilising Coursewise as the single entry point for programme and module data entry and maintenance, the next step is to do a mapping with Banner and consider any implications. In addition to working out what data elements would need to be pushed from Coursewise into Banner and where they would be held, DIT need to consider potential issues such as those listed below:

- Data items in Coursewise will not be a straight forward mapping onto Banner fields, and validation will need to be considered.
- Programme and Module Codes – if new programme and module codes are to be created in Coursewise, how are DIT sure they do not already exist? Should a manual check in Banner be part of the process or should checking be built into Coursewise? Will Coursewise be able to collect all the other data required to set up new programmes and modules? Will it be able to provide data that fits with the validation of Banner fields (e.g. will it adhere to field length and type?) and use the existing lists of values? If not, will the integration process fail and who will manually have to sort the errors?
- Codes – similar to above, if any new codes are created in Coursewise (e.g. level code) what will happen if this does not exist in Banner? Can new ones be set up? Who should have the access rights to do this?
- Coursewise takes into consideration modules – how does this concept work with Banner sections (CRNs) or is the integration purely to create modules in Banner and sections would be created as they are now? DIT have some modules that have multiple occurrences and the mapping between course and section is not one-to-one.
- Assessment held in Coursewise is at module level, whereas the electronic gradebook works at section level. Additional information also has to be collected to support the set up of electronic gradebook.
- Coursewise has a concept of streams. Analysis needs to take place to see how this is/can be modelled in Banner.
- Coursewise has a concept of core, option and elective modules. Analysis needs to take place to see how this is/can be modelled in Banner.
- Coursewise uses of term (e.g. 2011-2012), does this fit into Banner's concept of terms that have been set up at DIT?
- If a change is made in Coursewise, will they be pushed into a holding table or will DIT expect the changed to be instant? Will the push of data only be following some kind of approval? Will the push of data always be linked to a term? Can changes only be made in the existing term?

After data mapping and addressing issues such as those above, if DIT wish to progress with the option of utilising Coursewise as the single entry point for programme and module data entry and maintenance, the next step is to look at IPP as a tool for building this integration.

IPP is a business process management suite; a combination of integrated application components that function together to help improve operations by being able to diagram, store, analyse, test, revise, deploy, execute and monitor a growing portfolio of business processes. IPP supports service orchestration and can be used to develop custom integrations or new solutions that span an institution's enterprise systems. IPP encourages end-to-end management of entire processes which include both humans and systems.

IPP is a key component of SunGard Higher Education's "Open Digital Campus" strategy, which seeks to assist Higher Education institutions in transforming their operations through realistic exploitation of IT. The main areas where IPP can provide a solution are:

- **Integration:** Complex dependencies and integrations across legacy institute systems that are difficult and costly to maintain over time and through multiple system upgrades
- **Agility:** Inability of current higher education systems and technology environments to easily adapt to changes in business needs, processes, and requirements
- **Total Cost of Ownership:** Ever increasing expense and effort required to acquire, implement, and effectively maintain institutional systems
- **Business Process Improvement:** Ever changing people, process and technology pressures limit the ability to explore automation or process improvement.
- **Technology Currency:** Ever increasing expense and effort required to maintain technology currency across all campus systems and the IT environment as a whole

Further information on IPP can be found in the attachment below:

ESS-338\_Open\_Digital\_Campus\_and\_Infinity\_External\_Solution\_Sheet.pdf

As an example, the University of Greenwich have carried out a project using IPP to integrate Banner, Scientia and Moodle.

If DIT wishes to proceed with this option, we can arrange further discussions on the analysis required and the use of IPP, as well as start to put together some costs and a project plan.

## Option 2: Implementation of a new version of Coursewise using the Programme and Modules Approvals system developed through IPP as a basis

This option involves developing a new version of Coursewise for programme and module data entry and maintenance and approval that will integrate with Banner, using IPP.

I have suggested this approach due to the concerns raised above with regards Coursewise – from a technical, functional and data point of view. Further analysis is required but other options should be considered as it may be time and cost effective to start with a new solution rather than try and develop the existing local application.

A Programme and Module Approval system is being implemented at Leeds Metropolitan University (LMU) using IPP and there seems to be many similarities between their project and yours:

Leeds Metropolitan University (LMU) had an urgent business requirement to streamline their course and module approval process as the university is embarking on a complete redesign of the undergraduate curriculum. The key change will be to the curriculum structure, moving from eight 15 credit modules per undergraduate level to six 20 credit modules per level. This necessitates a complete re-validation and approval of all current Banner courses and modules. There will be around 500 courses to approve and many thousands of modules.

The goal of this project is to streamline and automate the course and module approvals process once strategic planning approval has been awarded, in order to:

- Maintain course and module approval information online
- Engage external advisors at an earlier stage in the process online
- Provide a fully auditable history of development and changes

To streamline the approval process the university wishes to automate the course and module approval process once strategic planning approval has been awarded, in order to:

- Maintain course and module approval information online
- Engage external advisers on-line and at an earlier stage in the process than traditionally the case
- Make progress through the approval process visible
- Provide secure access for actors in the process to read, update and comment in line with assigned roles and responsibilities
- Devolve responsibility for setting up security roles to appropriate levels within the university
- Provide a fully auditable history of development and changes
- Provide an online facility for comment
- Link CV's to courses and modules

- Eliminate the need for face to face approval committees where appropriate
- Simplify the outcomes from approval – no approval with recommendations and/or conditions – either approved or back for rework and resubmission
- Communicate the outcomes of the approval process to the wider university community
- In the longer term, re-purpose outputs from the process into the prospectus and the programme specification system

During the approvals process, LMU want the users will be guided through a series of dialog screens, leading to completion of the course details and final approval from external advisors. The course details will be refined in iterative steps, and a concept of freezing the course will be introduced. This will essentially lock the course against change in order to engage external advisors and prevent them having to comment against a 'moving target'.

Each participant will be able to provide comments on the course and its content. The comments will be semi-formal and internal to the Course Development Team, and formal from the external advisors requiring action or response from the Course Leader. A course will then be submitted for approval by the Course Leader to the External Advisors, the QSRE, and the DVC.

The course and module approvals process will be orchestrated by IPP and will involve integration with the following external systems:

- **Banner:** Banner is the overall management software at LMU delivered by SunGard Higher Education. Banner manages entities such as university programmes, courses, teachers and students and covers functionality like registering, signing up and personal information management. Banner is the master database for the above information. IPP will be integrating with Banner to retrieve and commit course and module information during the approvals process.
- **Email Server:** Notifications to the users will be generated throughout the IPP process and IPP will be integrating with the SMTP server to facilitate this.
- **Authentication:** Sun Directory Service (DS) at LMU contains all the user authentication information. IPP will therefore integrate with DS to authenticate a user into the IPP portals. IPP will also query a role database provided by LMU to obtain all the user attributes for authorization and role mappings.
- **Reporting:** LMU use Business Objects and this will eventually support the reporting requirements. Initial reporting will be provided by IPP as there is a need to be able to generate an approval document(s) in PDF format.

With a project similar to LMU, DIT would still need to analysis the DIT specific functional requirements, but a supported technical framework would be provided, and data that already resides in Banner and currently supports students can be used as the starting point. Further consultancy can help with this analysis and business process mapping which can help DIT align people, process, and technology with strategic priorities. By discovering new efficiencies, eliminating inefficiencies, and aligning appropriately supported business

processes with strategic initiatives, DIT can more successfully focus its resources on achieving desired goals.

The technical approach would be a combination of IPP and Banner to deliver an integrated end to end set of processes, which can be monitored and improved as the processes evolve over time;

- IPP will be used to orchestrate the workflow of the business processes and provide Business Activity Monitoring and easy identification control of the tasks being performed.
- IPP and associated User Interface technologies (e.g. JSF or Groovy/Grails/ZK Zui) will be created to collect relevant data for the described processes. Integration to Banner will be performed to provide validation and improve data integrity.
- Communication and collaboration could be achieved using a variety of techniques including built in tools within IPP, collaboration tools and email and portal communications.

If DIT wishes to proceed with this option, we can arrange further discussions on the analysis required and how the Programme and Approvals solution could be implemented at DIT, as well as start to put together some costs and a project plan.

Concern was raised during the consultancy sessions that the upgrade to Banner 8.5 would have serious implications for this project and its timescales. I can confirm that within this option we would be making API and Webservice calls to Banner so the impact of the upgrade should be minimal and would be covered in the annual maintenance agreement. When DIT upgrade to Banner 9 there may be a small update required but again this would be included in the annual maintenance agreement

As an additional feature of this option, DIT could also implement Banner's Programme Catalogue to allow staff as well as potential and existing students to learn more about your programmes and modules from your website. If IPP pushes data into CAPP tables, then the implementation of this feature would be easy and could replace the front end of Coursewise. Please see the recording in option 3 for further information.

### Option 3: Implementation of a new version of Coursewise using the Programme Catalogue as a basis

This option involves utilising the Programme Catalogue in Banner. This is a template solution developed using the Self Service Engine that displays programme and module information that has been set up in Banner (mainly CAPP). As an initial view it seems it could replace the live version of Coursewise, however, the core data would need to be set up in Banner forms and additional data can be entered by those with authorised access via Self Service Banner. This may not be seen as a suitable replacement for the users who have authorised access to Coursewise as data entry is not all in one place.

The data entry part of this option may mean it is not a viable option for DIT, yet since it is Banner there would be no need for integration so I would encourage DIT to watch the following recording to get an overview of the module:

#### **Programme Catalogue (password: progcat): 35 minutes Password : progcat**

Streaming:

<https://sungardhe.webex.com/sungardhe/ldr.php?AT=pb&SP=MC&rID=37783947&rKey=836a4d6b1eeebdd1>

Downloading:

<https://sungardhe.webex.com/sungardhe/lsr.php?AT=dw&SP=MC&rID=37783947&rKey=8817ff525679c78b>

Programme Catalogue uses programme rules information set up in CAPP:

- SMAPRLE – Programme Definition Rules
- SMAPROG – Programme Requirements
- SMAAREA - Area Requirements

DIT would need to create information in CAPP for use in the Programme Catalogue module. Programme Catalogue also allows the creation of supplemental data that does not have a Banner field, and as this is built using the Self Service Engine some customisation can be made to suit each institution's needs.

Since this module is developed using the Self Service Engine we could also investigate how Programme Catalogue could be extended to meet DIT's requirements data entry requirements but technical support would be required to make this assessment.

If DIT wishes to discuss this option further, we can arrange the appropriate people to be involved, and start to put together some costs and a project plan.



Since the project deadline is June 2012, DIT are encouraged to assess the options as soon as possible whilst continuing their discovery into Coursewise, mapping the as-is and to-be business process, and assessing the current state of data. I, along with your Account Manager Sarah, are happy to discuss options further and can bring in further consultants as required.

I would personally recommend DIT look further into option 2 as I see this as a long term solution that supports the whole programme and module set up and approvals process online. It involves business process analysis and simulation, flexible workflow, distributed access and user setup, a simple and intuitive user interface, approvals by internal and external examiners, communication alerts, versioning and archiving, reporting, and connection with Banner. Key elements include data persistence, data reporting, version management and data re-purposing. Skills and experience picked up in IPP project can be used to support future projects at DIT also.

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Follow-up Report DIT Confidential and Proprietary  
Follow-up Report Cheryl McGahey 24<sup>th</sup> January 2012



## APPENDIX 4- RISKS ASSOCIATED WITH DEFERRING THE BANNER UPGRADE

This is not an exhaustive summary of the risks but summary of the main issues:

### Infrastructure Overview – Information Services

The following application services use Alpha servers - Agresso, Banner, TLT (Student Grants), Business Objects (Infoview)

1. **Hardware maintenance** cost is €28,000/annum for Alpha's. This provides for a 4 hour response. Experience is that hardware will be repaired/fixes to SLA timescales, but this is not a guarantee of service restore in acceptable time frame.

Recommendation: Have business plan and understand impact for non availability of application for 3 days.

2. **Backup/Recovery/Data Loss.** All backup/recovery processes rely on manually written scripts. Backups are also stored on tape. Estimate time to recover from tape is 3 days.

Recommendation: As 1.

3. **Skillsets.** These are limited to ~3 staff who could still administer these systems (i.e. backup, recover, deal with HP on any hardware issues etc.)

Recommendation: Ensure 3rd party support, last estimate cost was €30k/annum or have draw down arrangement (€1,000/day) to assist.

4. **Platform Development.** There are no new patches, bug fixes etc. to address any new items that may occur.

Recommendation: Store additional copies of critical data completely outside of these environments to protect data.

5. **Physical environment.** The majority of the servers involved are in room 1-016 Aungier St. This room needs a refurbishment and upgrade. 1-016 also houses DIT phone system for all calls, and primary Internet access. (Some Air conditioning has failed and there is a notified issue on fire suppression.) The server & storage equipment takes up 50% of the server floor space. Continuing to run Alpha is blocking the development of this room as any facilities type work internally risks service. Equipment sharing the racks has not been removed as it may break service.

6. **Performance.** There is a risk that the server/storage equipment just will not be able to process the data & transactions required.

Recommendation: Ensure business processes are staggered so as not to attempt to run applications at over capacity.

(Paul Reardon & Dearbhla O'Reilly)

## Banner System Configuration Strategy & Assessment

### **Extract from Section 4 – Risks – By Greg Peters, SGHE 25<sup>th</sup> January 2011**

The hardware sizing contains only a test/dev environment and a production environment, a disaster recovery environment should be considered to reduce the risk of downtime caused by catastrophic failures or incidents. DIT does not currently have a documented disaster recovery or business continuity plan and they do not presently have equipment in place to recover their environments to. SunGard Higher Education recommends that DIT create a documented Disaster Recovery plan that includes steps needed to bring their environments back online as well as create a DR environment for their Banner servers in case of a critical outage.

Currently the Dublin Institute of technology is running the TEST and PRODUCTION on the same server. This limits DIT's ability to adequately test upgrades before moving them into production as well as removes their ability to test hardware and firmware upgrades and changes without risking impacting the production database instance. SunGard Higher Education recommends running separate server environments for DEV/TEST and PRODUCTION at a minimum.

The DIT servers should be standardized at a minimum across application lines. For instance all of the INB servers should share a common "golden image" build, which includes the same release level, the same service pack or maintenance level and the same patch level. Have servers built to a standard and be mirror images of each other allows for the ease of troubleshooting should problems arise as well as an understanding of how changes will affect the production servers by fully testing them on the test servers.

The Dublin Institute of Technology does not currently have a scheduled maintenance window in place to ensure timely updates of the operating system or applications. Scheduled maintenance windows should be in place for all servers including Production servers. The maintenance window should be recurring at a minimum of once per month and should be documented and advertised so that groups can plan accordingly in advance of outages. Maintenance windows allow systems administrators the needed time to ensure the systems are kept up-to-date with other systems as well as to ensure critical and security patches can be added to servers in a timely fashion which minimizes the risk of outages.

The current database server hardware in use at DIT is no longer within the support life cycle. This puts DIT at risk of a failure without being able to contact the vendor for support of the server. This could cause an outage to become long term and in some cases DIT could risk not being able to recover from an outage on the existing hardware.

The current application server hardware in use at DIT is at the end of its support life cycles but maintenance contracts for that hardware can still be purchased. The cost of ongoing maintenance contracts beyond the original support life cycle can quickly become cost prohibitive.

The current version of Banner being run at DIT, 7.4 is limited to Oracle 10g. Banner and Oracle 10g are at their end of support life cycles, information concerning de-support dates for Banner can be found on the documentation site under FAQ CMS-11730. Banner 7.4 was de-supported at SunGard Higher Education as of 30 April 2011. Tru64 will be de-supported at SunGard Higher Education as a Banner OS as of 15 April 2012. Oracle 10g will be out of Oracle support at the end of April 2012.

## Letter from SungardHE in relation DIT's version of Banner

### **SUNGARD**

Higher Education • [www.sungardhe.com](http://www.sungardhe.com) • +44 (0) 161 929000 tel • +44 (0) 1494 838610 fax

22<sup>nd</sup> December 2011

Dublin Institute of Technology  
143-149 Rathmines Road,  
Dublin 8

Dear Paul,

Having had a conversation with Sarah yesterday following your meeting with her, I feel it's important that SunGard HE assists in identifying the issues that need to be recognised in the decision regarding the Banner 8 upgrade.

Since Banner is underpinned by the Oracle Database, it is necessary to ensure that the right Oracle support is in place to enable SunGard Higher Education to be in a position to support fully our clients. As you are aware, there is now a fundamental requirement to upgrade Oracle to the 11g database in addition to either Tomcat 6 or Oracle Fusion Middleware since the existing 10g database will no longer be supported by Oracle from April 15<sup>th</sup> 2012.

With regard to your Banner installation, we are already concerned that DIT is the only client running on Banner7 and not in the position to take advantage of a number of enhancements that have been exploited by other UK and Irish clients during the last 12-18 months. More fundamentally, once the SunGard Banner development moves to Banner 9 we will no longer have access to Banner 7 support environments, therefore replicating and potentially supplying fixes to any reported issues will be limited. This leaves us in an invidious position of potentially not being able to support DIT should they find problems running the version 7 software. Finally but possibly the most important fact is that we have already published plans for delivering all regulatory changes (CAO specifically) as Banner 9 modules during the early months of 2013. This will leave DIT exposed to any changes requested as you will need to be running Banner Student 8.5 to run CAO against.

Our recommendation, therefore, is that, before April 15<sup>th</sup> 2012, your Banner Student needs to be upgraded to at least v8.5 and that in turn is supported by Banner General 8.4.1 (with the necessary patches). In addition the Data Base Extension Utility (DBEU) will need to be run against the Banner 8 table structures. The reason for this recommendation is that this software is then the correct platform for being able to take advantage of the Banner 9 modules as and when they are released during the next 12-18 months. Banner 9 offers significant benefits to the user community with a very rich open web service platform enabling easy inter operability with other vendor solutions or in house modules. Clients that have worked on the Banner 9 beta modules have reported significant ease of use and having had no need to retrain their end users. One of the fundamental benefits of Banner 9 is that the modular approach will mean that no large upgrades will be needed in the future and, instead, clients can look at the business benefits of each module and identify a timeframe that supports moving to each new module in turn.

We do recognise that the upgrade facing DIT is no quick job but that is largely due to minor upgrades not having been completed for several years now and we are, in essence, in a "catch up" situation.

We would recommend therefore that DIT review the position on the above and look to plan to do the upgrade at the earliest convenience. This would alleviate the potential on-going risks to the smooth running business support currently provided by Banner within DIT.

Yours sincerely,

Jonathon Garnett  
Senior Vice President  
SunGard Higher Education International Ltd

SunGard Higher Education International Limited • Prospect House • Crendon Street • High Wycombe • HP13 6LA  
Registered Office: 25 Canada Square, London E14 5LQ. Registered in England and Wales No. 4586962

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**APPENDIX 5- NQAI REPORT – RELATED IS ELEMENTS FOR 2012-01-30**



**Annual Report**

**to the**

**National Qualifications Authority of Ireland**

**Academic Year 2010/2011**

***IS Elements for 2012***

**6<sup>th</sup> January 2012**

DIT Action Reference Number	European Standards and Guidelines Topic
1.2	Policy and procedures for quality assurance

**Recommendation – Page 11, June 2011 Report**

*In terms of strategic oversight of quality assurance, the Academic Council and its sub-committees, particularly the Academic Quality Assurance sub-committee, should focus on activity at the College level. They should review the effective operation of quality assurance processes at the College level. Individual Colleges, in turn, while operating inside an institutional system of processes and reporting, should be delegated more responsibility for setting priorities for Schools and for programmes. Mechanisms to share good practice should be actively promoted at School and College levels, for example, making available all the elements of School reviews (self-evaluation reports, panel reports and follow-up) to all Schools.*

**Institute response June 2011**

*Academic Affairs will implement this recommendation. The implications of such changes need careful consideration through a consultative process with Colleges and Schools. Early in the next academic year, Academic Affairs will meet with each College Board to assess how to best implement this recommendation and seek Academic Council approval accordingly.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Head of Quality Assurance and Academic Programme Records

Actions	Action owner	Timeframe
Develop (i) policy that devolves responsibilities within a common framework and (ii) statement in relation to decision making within the Institute. These will reflect and enhance existing practices and procedures.	Head of QA & APR	September 2012
Develop and implement common business processes underpinned by and contingent on a single integrated IS system, as follows:	Head of QA & APR and Academic Affairs Operations Manager	February 2012
1. consolidate existing business processes	Chief Information Officer	September 2012
2. undertake systems analysis and beta implementation	Head of QA & APR and CIO	September 2013
3. full implementation across the Institute.		

<p>Use existing mechanisms to collect and disseminate good practice and explore other appropriate mechanisms.</p> <p>College Reviews to ensure effective operation of processes.</p>	<p>Head of QA &amp; APR</p> <p>Each Director and Dean of College</p>	<p>March 2012</p> <p>September 2011 – December 2012</p>
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<p><b>Dependencies</b></p>	<p>Development of the integrated IS systems (see Recommendation 1.5) and providing greater transparency and visibility to processes while they are in train (e.g. Q5).</p>
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DIT Action reference number	European Standards and Guidelines Topic
1.5	Policy and procedures for quality assurance

**Recommendation – Page 12, June 2011 Report**

*DIT should consider how to improve the tracking and monitoring of decisions, documents and records concerning the multiple quality assurance processes, including the introduction of workflow management systems and a records management system.*

**Institute response June 2011**

*DIT will develop and implement formal processes that address this recommendation.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Head of Quality Assurance and Academic Programme Records

Actions	Action owner	Timeframe
Develop and implement common business processes underpinned by and contingent on a single integrated IS system (see Recommendation 1.2), including consolidation of existing business processes.  Install and implement new electronic data records management system.  Review and transfer legacy data on to new system.	Head of QA & APR and Academic Affairs Operations Manager	February 2012
	Chief Information Officer	June 2012
	Head of QA & APR	June 2013

DIT Action reference number	European Standards and Guidelines Topic
3.1	Assessment of students

**Recommendation – Page 21, June 2011 Report**

*DIT is encouraged to continue to improve the quality and consistency of information on assessment in Student Handbooks and on CourseWise*

**Institute response June 2011**

*The Learning Teaching & Technology Centre (LTTC) to define a 'standard' for the articulation of information on assessment and devise an implementation plan to be communicated to all staff together with training workshops.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Head of LTTC

Actions	Action owner	Timeframe
Develop an Institute standard on the information required on assessment.	Head of LTTC	September 2012
Each student handbook to conform to the new format and will be available on-line linked with other on-line resources.	Each Programme Chair	September 2012
Review the effectiveness of student handbooks and report annually to Academic Council.	Each Director and Dean of College	September 2012
Develop and implement common business processes underpinned by and contingent on a single integrated IS system, as follows:	Head of QA/APR and Academic Affairs Operations Manager	February 2012
<ul style="list-style-type: none"> <li>consolidate existing business processes</li> </ul>	Chief Information Officer	September 2012
<ul style="list-style-type: none"> <li>undertake systems analysis and beta implementation</li> </ul>	Head of QA & APR and Chief Information Officer	September 2013
<ul style="list-style-type: none"> <li>full implementation across the Institute</li> </ul>		
DIT Action reference number	European Standards and Guidelines Topic	
5.6	Learning resources and student support	

**Endorsed Action – Page 29, June 2011 Report**

*Leverage on-line resources to enable flexible provision of programmes, services, information and communication between staff and students*



Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Chief Information Officer / Head of LTTC

Actions	Action owner	Timeframe
Initiate pilot of lecture capture software with audio-visual technicians / upgrade of telematics facilities.	Head of LTTC and Chief Information Officer	February 2012
Propose model for virtual campus and establish resource requirements.	Head of LTTC	March 2012
Identify new demands for learning and teaching initiatives (see Recommendations 4.1 and 4.2).	Head of LTTC	November annually



DIT Action reference number	European Standards and Guidelines Topic
6.1	Information systems

**Recommendation – Page 31, June 2011 Report**

*The new IS strategy should take account of how Information Systems can support quality assurance.*

**Institute response June 2011**

*The recommendations provided within the review to be prioritised within the operation plan for the Information Systems function.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Chief Information Officer

Actions	Action owner	Timeframe
Develop and implement common business processes underpinned by and contingent on a single integrated IS system, including the need to consolidate existing business processes (see Recommendation 1.2).	Head of QA & APR and Academic Affairs Operations Manager	February 2012
Revise IS operational plan to satisfy QA requirements.	Head of QA & APR / Chief Information Officer	March 2012

DIT Action reference number	European Standards and Guidelines Topic
6.2	Information systems

**Recommendation – Page 31, June 2011 Report**

*Whilst acknowledging the challenges to integrate IS, the Panel recommends that work be advanced to achieve compatibility between CourseWise and Banner.*

**Institute response June 2011**

*A project is already underway to bring together Banner and CourseWise to provide an integrated seamless source of module and programme information. Full implementation will be progressed as a matter of priority.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Chief Information Officer / Head of Quality Assurance and Academic Programme Records

Actions	Action owner	Timeframe
Specify the business requirements for a single electronic programme / module repository.	Head of QA & APR and Academic Affairs Operations Manager	December 2011
Report on solutions and timeframes in relation to this specification.	Chief Information Officer	January 2012
Develop a process for Schools to transfer legacy data identifying resource requirements.	Chief Information Officer	May 2012

DIT Action reference number	European Standards and Guidelines Topic
6.3	Information systems

**Recommendation– Page 31, June 2011 Report**

*The DIT is encouraged to facilitate the greater automation of quality assurance processes (from input to retrieval) as a means of improving efficiency, managing workflows and records and in ensuring timely access to data and a fully informed profile of activity. This needs to be accessible to Programme Committees, Schools, Colleges, Academic Affairs and the Registrar, dedicated Quality Assurance personnel and Student Services.*

**Institute response June 2011**

*The solution to be adopted will be full on-line availability of information in a structured format.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Chief Information Officer

Actions	Action owner	Timeframe
Define the user requirements for the workflow of a document management system based on the Handbook for Academic Quality Enhancement.	Head of QA & APR	February 2012
Specify and procure the best information system to meet these requirements.	Chief Information Officer	June 2012 (subject to funding)
Implement new automated workflow pilot for Q5 process.	Each Director and Dean of College	October 2012

DIT Action reference number	European Standards and Guidelines Topic
6.4	Information systems

**Recommendation – Page 31, June 2011 Report**

*The DIT is also encouraged to develop the capacity of its Information System to provide more automated student cohort analysis, for example, to measure and track student progression from entry to achievement of an award and make this easily available to the quality assurance system (in place of the manual extrapolation of data).*

**Institute response June 2011**

*Systems and data management processes will be modified to enable both individual students and student cohorts to be tracked and reported on for specified academic purposes, with the elimination of manual extrapolation of data to be set as a priority.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Chief Information Officer

Actions	Action owner	Timeframe
Develop an Information Strategy to further the integration of the Institute's applications using a user centred design approach.	Chief Information Officer	February 2012
Establish a number of working groups, including examinations, admissions, registrations, finance, Programme Chairs to specify the reports required as part of tracking students / student cohorts.	Chief Information Officer	May 2012
Each College to provide a complete list of the following academic year's Programme Chairs.	Each Director and Dean of College	May annually
Publish further the reports that are currently available and make training available on accessing these reports as part of new Programme Chair Induction and periodic training for Heads of School / Department.	Chief Information Officer	May 2012

Dependencies	
	Immediate priority reports to be made available but IS capacity to make integrated reports available is dependent on the integration of current systems (see Recommendation 6.1).

DIT Action reference number	European Standards and Guidelines Topic
6.5	Information systems

**Recommendation – Page 31, June 2011 Report**

*The DIT is encouraged to consider enhancing the range of relevant data captured in the Electronic Grading System to meet academic needs.*

**Institute response June 2011**

*Academic Affairs to specify requirements of the EGB with a view to IS carrying out an implementation within the next two years.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Chief Information Officer

Actions	Action owner	Timeframe
Specify additional data/information required as part of the EGB environment which are within the capability/capacity of “Banner” to deliver.	Chief Information Officer	May 2012
Develop a plan to deliver the required reports.	Chief Information Officer	December 2012

DIT Action reference number	European Standards and Guidelines Topic
6.6	Information systems

**Endorsed Action – Page 31, June 2011 Report**

*Determine and provide additional functionality required to support leveraging modularisation.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Chief Information Officer

Actions	Action owner	Timeframe
Specify the systems to support the provision of greater choice within programmes and the ability to access modules from across the DIT system. This is to include the provision of individual student timetables and tracking of student results.	Chief Information Officer	December 2012



DIT Action reference number	European Standards and Guidelines Topic
7.1	Public information

**Recommendation – Page 33, June 2011 Report**

*The Panel acknowledges that substantial work has been undertaken on the updating of the Institute website in recent years. However, some important omissions remain, in particular, information on programme learning outcomes is not regularly included as part of programme information. Summaries of external programme accreditations would also be a useful addition. The DIT may also wish to utilise the internal skills and resources at its disposal in the Schools of Marketing and Computing to enhance the website as a communications instrument.*

**Institute response June 2011**

*The recommendation on learning outcomes & accreditation details is to be addressed. An action plan will be devised and implemented by the Public Affairs Office with a view to enhancing the website in this regard.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Head of Admissions

Actions	Action Owner	Timeframe
Update, in conjunction with the Colleges, the website and prospectuses to reflect and summarise the learning outcomes and provide links to quantitative reports on admission, transfer and progression of students for every programme on offer.	Head of Admissions	March 2013
Further communicate to potential applicants arrangements for the recognition of all prior learning.	Head of Admissions	March 2013
Revise the programme / module catalogue to include a section for programme learning outcomes.	Chief Information Officer	June 2012

DIT Action reference number	European Standards and Guidelines Topic
7.2	Public information

**Recommendation – Page 33, June 2011 Report**

*CourseWise, the module catalogue, has enormous potential, and needs to be fully populated. The Panel recommends that the DIT continue to develop CourseWise as the single repository for programme information, module descriptors, learning outcomes, assessment criteria and exam papers and to make it fully operational for all programmes and modules. The Panel also heard evidence that training for staff and students on inputting to, and navigating, CourseWise would be beneficial.*

**Institute response June 2011**

*This recommendation will be implemented.*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Chief Information Officer / Head of Quality Assurance and Academic Programme Records

Actions	Action owner	Timeframe
Nominate an individual in each School to be responsible for ensuring the catalogue is populated for programmes and modules they 'own'.	Each Head of School	January 2012
Establish a Project Group to propose the solution for a seamless electronic repository for programme and module information.	Chief Information Officer	December 2011
Carry out a data integrity project, with resource requirements which will include: <ul style="list-style-type: none"> <li>• Training for all concerned</li> <li>• Inputting of quality assured current data by each School</li> <li>• Implementing the quality assurance process which ensures that content is validated and current</li> <li>• Achieving a defined level of content accuracy</li> </ul>	Chief Information Officer Each Head of School Head of QA & APR	December 2013
Archive superseded programme and module information	Each Head of School Chief Information Officer / Head of QA & APR	March 2014

DIT Action reference number	European Standards and Guidelines Topic
9.1	Participation in the Bologna process

**Endorsed Action – Page 29, June 2011 Report**

*Provide the Diploma Supplements automatically*

Executive owner	Person responsible for managing action
Director of Academic Affairs and Registrar	Head of Student Administration

Actions	Action owner	Timeframe
A working group will be established to develop a system to provide diploma supplements automatically, taking into account national/European initiatives underway.	Head of Student Administration	December 2011 – October 2012
Finalise the automatic issuing of Diploma Supplements.	Head of Student Administration	October 2012

Dependencies	
	Upgrade of “Digitary”, resolution of Business process issues and the development of the CourseWise / “Banner” Interface.