Board of Management
Audit Committee

Date of Meeting	**Wednesday 15 May 2019**
Paper No.	**AC5-G**
Agenda Item	**8.3**
Subject of Paper	**Internal Audit Report – Innovation & Research**
FOISA Status	**Disclosable**
Primary Contact	**David Archibald/Stuart Inglis, Henderson Loggie**
Date of production	**May 2019**
Action	**For Discussion**

1. Recommendations

The Committee is asked to consider and approve the attached Internal Audit Plan 2018-19.

2. Purpose of report

The purpose of this document is to present for consideration by management and the Audit Committee the annual operating plan for the year ended 31 July 2019.

3. Context

3.1 The plan is based on the proposed allocation of audit days for 2018/19 set out in the Audit Needs Assessment and Strategic Plan 2016 to 2020, which was presented to the Audit Committee and approved at its meeting on 8 March 2017.

3.2 The plan sets out the outline scope and objectives for each audit assignment to be undertaken during 2018/19, together with the audit approach. These have been arrived at following discussion with members of the College Senior Management Team (SMT) during the Audit Needs Assessment process in February 2017.

3.3 The outline scopes will be finalised after discussion with responsible managers in each audit area as follows:

- Health and Safety
- Quality Assurance & Improvement
- Libraries and Learning Technologies
- Student Recruitment Targets
- Staff/Organisation Development
- Student Fees
- Innovation and Research
- Business Continuity
- Data Protection
- Systems Development/Implementation
- Credits Audit
- Follow-Up Reviews

4. Impact and implications

4.1 In producing the Internal Audit Plan for 2018-19 the Internal Auditors have sought to provide assurance to City of Glasgow College that proper controls, policies and processes are in place to deliver the overall business strategy and objectives of City of Glasgow College. The Audit reports will include agreed recommendations for improvement as required, referencing the key challenges and strategic risks facing City of Glasgow College.

4.2 This process will enhance performance and compliance, and mitigate against strategic failures as outlined in the College Strategic Plan.

City of Glasgow College

Innovation and Research

Internal Audit Report No: 2019/05

Draft Issued: 25 April 2019

Final Issued: 7 May 2019

LEVEL OF ASSURANCE	Good

Content

Level of Assurance

In addition to the grading of individual recommendations in the action plan, audit findings are assessed and graded on an overall basis to denote the level of assurance that can be taken from the report. Risk and materiality levels are considered in the assessment and grading process as well as the general quality of the procedures in place.

Gradings are defined as follows:

Good	System meets control objectives.
Satisfactory	System meets control objectives with some weaknesses present.
Requires Improvement	System has weaknesses that could prevent it achieving control objectives.
Unacceptable	System cannot meet control objectives.

Action Grades

Priority 1	Issue subjecting the College to material risk and which requires to be brought to the attention of the Audit Committee.
Priority 2	Issue subjecting the College to significant risk and which should be addressed by management.
Priority 3	Matters subjecting the College to minor risk or which, if addressed, will enhance efficiency and effectiveness.

1. Overall Level of Assurance

Good	System meets control objectives.

2. Risk Assessment

This review focused on the controls in place to mitigate the following risks on the City of Glasgow College ('the College') Risk Register:

- Failure to support successful student outcomes (net risk score: 10);
- Failure to achieve improved business development performance with stakeholders (net risk score: 10);
- Failure to manage performance (net risk score: 4); and
- Failure to maximise income via diversification (net risk score: 12).

3. Background

As part of the Internal Audit programme at the College for 2018/19 we carried out a review of innovation, applied research and STEM activity. The Audit Needs Assessment, completed in March 2017, identified this as an area where risk can arise and where Internal Audit can assist in providing assurances to the Board of Management and the Principal that the related control environment is operating effectively, ensuring risk is maintained at an acceptable level.

Definitions

Innovation is the creation of economic value and social benefit through the application of new ideas in new contexts. Innovation sits across the College and in every aspect of work.

Research is the creation of new knowledge and the publication of this information (generally on project websites but sometimes in journals). This is largely project work with the objective of either using this to create an opportunity to utilise the outputs (applied research) or where the College wishes to build its reputation or network with other organisations.

STEM (Science, Technology, Engineering and Maths) is about delivery of transformational change via programmes related to STEM areas, including changes in curriculum but is not focussed solely around STEM curriculum delivery.

Innovation and STEM Team

The College has a four person Innovation and STEM team. This team works with external individuals and organisations to help identify and deliver projects relating to innovation, research and STEM that align with the College's strategic priorities. They also work with the academic faculties, both in identifying opportunities and in delivering projects.

Industry Academies

As part of the College's recent restructuring the work of the Industry Academy Heads has been transferred to the Associate Deans. As part of their role they have oversight of work being undertaken in their faculty which involves employers and industry; including identifying how the College can work more closely with industry to ensure that students leaving the College meet the needs of employers. This activity involves a significant amount of innovation given the changing needs of stakeholders.

4. Scope, Objectives and Overall Findings

This audit considered the key risks in relation to innovation, STEM (Science, Technology, Engineering and Maths) and research grants and contracts. The table below notes each separate objective for this review and records the results:

Objective		Findings			
The objective of this audit was to obtain reasonable assurance that:	**Assurance**	**1**	**2**	**3**	**Actions already planned**
		No. of Agreed Actions			
1. An effective strategic and operational planning process has been established for innovation, applied research and STEM	**Satisfactory**	0	0	0	✓
2. An appropriate staffing and governance structure has been put in place to support innovation, applied research and STEM	**Good**	0	0	0	
3. There are appropriate processes in place to identify, appraise, cost and apply for opportunities for innovation, applied research and STEM, including the research component of the College's involvement in WorldSkills	**Good**	0	0	0	
4. There are appropriate project management procedures in place over the delivery, monitoring and evaluation of innovation, applied research and STEM activity, which includes quality assurance and compliance with grant and contract conditions	**Good**	0	0	0	
Overall Level of Assurance	**Good**	**0**	**0**	**0**	
		System meets control objectives			

5. Audit Approach

Through discussion with the Vice Principal - Corporate Development & Innovation, other key staff involved in innovation, applied research and STEM, and a sample of clients we considered whether the above objectives had been met.

6. Summary of Main Findings

Strengths

- The College has a Strategic Plan and Corporate Development Strategy to provide a framework for innovation, research and STEM. There is also a Regional STEM Strategy;
- An Innovation and STEM team has been set up to support innovation, research and STEM activities within the College;
- There are industry academies in faculties, which the Associate Deans are responsible for, that support closer working between the College and business, including supporting innovation and STEM activities;
- The College deploys a range of techniques to identify innovation, research and STEM opportunities and appropriate processes are in place to appraise, cost and apply for relevant resources.
- The Innovation and STEM team use Smartsheets software which allows close management of projects, including attaching evidence and sharing of documents with partners; and
- There are a range of quality assurance and contractual compliance mechanisms to ensure that the College's innovation, research and STEM projects are delivered to an appropriate quality standard.

Weaknesses

- No significant weaknesses were noted from the work undertaken.

7. Acknowledgements

We would like to thank the College staff and sample of College clients interviewed for the co-operation and assistance we received during the course of our review.

8. Findings and Action Plan

Objective 1: An effective strategic and operational planning process has been established for innovation, applied research and STEM

Strategic Planning

a) Strategic Plan

The College's Strategic Plan 2017-2025 includes specific references to innovation and STEM. This includes:

- Our Way: Inspiration, Excellence and Innovation;
- Our Values: includes 'Innovation and Enterprise';
- Priorities: Priority 3 includes to 'innovate in partnership', and Priority 6 includes 'to be efficient, effective, innovating and vigilant';
- STEM: 'The College maintains its strategic commitment to the delivery of higher level technical and associate professional skills, with a focus upon STEM subjects, to meet the needs of a changing labour market in a growing modern economy'; and
- Innovation: 'City of Glasgow College has a strategic commitment to innovation, as a cornerstone of Our Way, and via its supporting strategies. This commitment is found in the College's cultural focus and effective integration in its operations and processes, as well as its curriculum, programmes and projects.' Strategic Aims: includes 6.1 'Achieve optimum standards for infrastructure management, efficiency, sustainability, and innovation' and 6.2 'Encourage innovative and enterprising ways of working, to achieve high levels of effectiveness, efficiency and governance.'

We noted that all projects undertaken by the Innovation and STEM team identify which College strategic priorities they relate to, in order to ensure that there is alignment of the projects with College priorities. It should be noted that not all work undertaken by the Innovation and STEM team is for commercial purposes, with some work progressed in order to increase the College's longer-term brand, influence and external reach.

b) Supporting Strategies

The College's supporting strategies and related initiatives include activities relating to innovation, research and STEM. In particular the Student Experience Strategy and the Corporate Development Strategy.

The Corporate Development Strategy incorporates a vision for innovation, research and development. Aim 1 relates to Industry Academies 4.0, including the development of a STEM Academy. We note that, as part of the recent restructuring exercise, this has been undertaken through the creation of a new Nautical and STEM Faculty, rather than as a separate academy.

Objective 1: An effective strategic and operational planning process has been established for innovation, applied research and STEM (Continued)

Strategic Planning (Continued)

b) Supporting Strategies (Continued)
Aim 2 relates to an innovation and research hub, which aims to introduce a programme of innovation and applied research activity across the College that identifies and exploits opportunities for staff, students and commercial activity. This includes the following specific strategic initiatives:

- 'Secure external strategic investment in research and innovation capability', which is being undertaken through the Innovation and STEM team; and
- 'Foster a culture of research and innovation throughout all aspects of College activity'. This is being undertaken partly though the Innovation and STEM team but also through the Faculties' Industry Academy work and through specific strategic developments and projects created by senior management.

c) Innovation Strategy
An innovation strategy has been drafted and we have been advised that this will be launched following the upcoming Investors in Innovation reaccreditation process later in 2019.

d) Regional STEM Strategy
There is a Glasgow Region STEM Strategy in place. The College also has a STEM manifesto setting out what it aims to achieve relating to STEM, including review of curriculum.

Operational Planning
The Innovation and STEM team was formed in October 2018 as part of the College's restructuring exercise. New guidance on planning, including a new operational planning template, was issued in March 2019. The Associate Director of Innovation and STEM has prepared a draft Innovation and STEM Operational Plan using the new planning guidance and template, which provides a clear link from the Strategic Plan's strategic priorities to planned activities. We reviewed the planned actions on the draft Operational Plan and noted that the activities were clear and measurable.

Within faculties there are operational plans, and each of the Associate Deans (who have Industry Academy roles) support activity being undertaken to work with businesses. In addition, there are a range of areas supporting innovation within faculties and support departments, including curriculum performance review, training and the EFQM framework. The College has also received accreditations for STEM Assured and Investors in Innovation, and these accreditation processes also reviewed how academic and support staff are involved in STEM and innovation. The College is seeking degree awarding powers and a new Director for Technical Degree Awarding Powers post has been created with the post holder coming into post in April 2019. The Associate Director of Innovation and STEM will work with the new post holder to drive increased research outputs in order to assist with the achievement of degree awarding power status.

Objective 1: An effective strategic and operational planning process has been established for innovation, applied research and STEM (Continued)

Current Projects
The Innovation and STEM team uses Smartsheet software for planning, project management and reporting. We observed on Smartsheets that there was an 'Innovation and STEM Dashboard' which sets out key metrics. We noted that, at the time of audit fieldwork in April 2019, this showed that the Innovation and STEM team had: 15 commercial projects; eight strategic partnerships; five Innovation Voucher projects; and one other partnership.

Scottish Institute for Innovation and Knowledge Exchange (SIKE)
The Institute for Innovation and Knowledge Exchange (IKE) based in London aims to increase business productivity, and has a range of qualifications, memberships and accreditation schemes. The College acts as the Scottish arm of the London Institute, which is branded under the name SIKE, and has a formal memorandum of understanding with the IKE. The SIKE assists the College in obtaining contacts for innovation work and provides a strong base for undertaking innovation and research related work.

Investors in Innovation
The College underwent Investors in Innovation accreditation in 2016 and is reapplying for re-accreditation in 2019. By achieving this award, the College has proven that it has appropriate procedures and resource to support innovation. The accreditation process also provides recommendations for the College on areas for further development of existing processes.

STEM Operational Planning
As a result of the Scottish Government's STEM strategy, a Glasgow Regional STEM Hub has been developed over the last 12 months. The College chairs the Glasgow Regional STEM Hub, with input from the other Glasgow colleges, Glasgow universities, Glasgow City Council, third sector organisations and representative agencies. The purpose of the Hub is to raise awareness of STEM careers, provide clarity in pathways in STEM education and deliver a STEM literate workforce that meets industry needs. The Hub reports into the Scottish Government's STEM Strategy Group. The College's Learning and Teaching Committee and Development Committee are also provided with information on STEM.

As STEM activity is required to be embedded within the College this is undertaken through existing academic and departmental structures, as demonstrated by the last STEM re-accreditation exercise conducted in 2018. The College has plans to introduce a STEM Board, which will have internal and external members, and will be tasked with providing guidance for the College on STEM related matters. The 2018 STEM assured self-assessment and report identified a number of areas for improvement. The Associate Director of Innovation and STEM advised that management is planning to review these recommendations in the near future and propose actions for how these will be implemented.

Objective 2: An appropriate staffing and governance structure has been put in place to support innovation, applied research and STEM

Innovation and STEM Team

The staffing structure in place since October 2018 is as follows:

- The Associate Director of Innovation and STEM, who provides strategic direction, and has an external facing role and involvement with a wide range of external organisations and groups;
- The Head of Innovation and STEM, who is operationally focussed, including undertaking planning and oversight of project managers; and
- Project managers, who are undertaking project work and holding events.

This structure appears reasonable. There are regular team meetings where team members share information about contacts they have made and to discuss progress on projects being undertaken.

Academic Faculties and Support Departments

As noted above, innovation and STEM is embedded throughout the College through the Associate Deans, and with oversight from the Vice Principal – Student Experience and Associate Director of Innovation and STEM.

Governance

Operational Plan targets and outturns are reported to the Development Committee, along with regular reports on current projects and forecast income from each project.

Objective 3: There are appropriate processes in place to identify, appraise, cost and apply for opportunities for innovation, applied research and STEM, including the research component of the College's involvement in World Skills

Innovation, applied research and STEM projects can be undertaken by faculties and support departments. However, larger projects would be progressed in partnership with the Innovation and STEM team. A large proportion of the innovation applied research and STEM projects are undertaken by the Innovation and STEM team. Their work includes EU projects, innovation vouchers (SFC funding for colleges to work with businesses delivering innovation related projects) and providing SIKE courses (which includes the Certificate of Professionalism in Innovation Practices and Innovation & Strategy for Business Leaders SBL Programme).

Identification

There are a range of mechanisms for identifying innovation, applied research and STEM opportunities including:

- use of the College's network of contacts, including past and current clients;
- involvement of the Associate Director of Innovation and STEM with a range of organisations and networks, including sitting on the Construction Scotland Innovation Centre Board, Glasgow City of Science and Innovation Board, SFC Gender Governance Strategy Board, Skills Development Board at the National Manufacturing Institute for Scotland, the STEM Regional Hub and SDS Gender Advisory Board;
- partnership working with other organisations that may identify opportunities;
- SIKE and IKE work;
- College internal contacts. An example of this is where the Vice Principal – Student Experience identified the opportunity for the College to be involved in SFC's Data Concept project. The Associate Director of Innovation and STEM is currently working on the development of a funding proposal for this project; and
- identifying a range of funds which the College is eligible to apply for, including opportunities from Public Contracts Scotland and EU tender opportunities, which the College receives automatic email updates on (based on interest categories selected from a menu of options within the PCS procurement portal).

Appraisal

When opportunities are identified these are initially informally appraised to identify whether they fit with the College's strategic priorities, areas of expertise, resources, and timing. If they are considered an appropriate fit, then a costing will be undertaken to determine financial viability.

Objective 3: There are appropriate processes in place to identify, appraise, cost and apply for opportunities for innovation, applied research and STEM, including the research component of the College's involvement in World Skills (Continued)

Costing

The Innovation and STEM team undertakes three types of work:

- profit making work – the College has a target profit margin for this work, and where potential work is below the target then the below-target margin must be approved;
- full cost recovery – some work has set day rates, such as some EU work. Regular monitoring of staff time is undertaken on projects to ensure there is no overspend; and
- partial funded activity – these projects may require an in-kind contribution and where this is the case the project management software splits out the in-kind time and cost. Partial cost recovery work can be used where the College considers there are intangible benefits in working on a project, such as instances where a project may help to develop a longer term relationship.

For all projects there is a costing and an authorisation process in place which requires different levels of authorisation depending on the value involved.

Application / Business Case

Applications or business cases are written, and the quality reviewed prior to submission. In multi-partner projects the external partners are involved in writing the application and in the review process.

WorldSkills

Founded in 1950, WorldSkills is an international movement and is the global hub for skills excellence and development. The overall vision is to improve the world through the power of skills. It brings young learners and apprentices together, giving them the chance to compete, experience and learn how to become the best in their skill of choice. WorldSkills UK competitions bring together people from across the UK to compete to be the best in their chosen skill. The Skills Academy at the City of Glasgow College was established in 2013 to provide sustained high-level teaching strategies via work-based learning models with coaching at its core. The work-based learning models support the learners at each stage of the learner journey, facilitating the delivery and development of world-class skills to inspire and motivate learners to be the best that they can be. The College has achieved significant success in WorldSkills UK competitions.

The College's WorldSkills work with individuals has innovation, research and STEM embedded within it. Individuals undertake research when preparing for competitions and are tutored by those with a high level of experience and skill, so that competitors can learn from their tutors. The College also uses WorldSkills to network through Erasmus projects to learn how others embrace STEM, innovation and future skills. The College is also involved with other parties, such as Construction Industry Training Board, in undertaking research.

Objective 4: There are appropriate project management procedures in place over the delivery, monitoring and evaluation of innovation, applied research and STEM activity, which includes quality assurance and compliance with grant and contract conditions

Project management

The Innovation and STEM team uses a range of project management methodologies, with the approach taken dependant on the type and complexity of work being undertaken and the funders' requirements. Smartsheets software is used for project management and can be used to prepare Gantt charts / programme planning documents (which include a RAG status for each action based on progress made against project milestones being on time and on budget), risk registers, issue logs, attaching evidence (including attaching timesheets and invoices), creating and closing actions, and notes for clarification. Smartsheets allows sharing of project information with partners, which provides partners with enhanced transparency on progress. As part of the audit, we discussed College projects with two external parties who were working with the Innovation and STEM team. The feedback provided by the external partners was that projects were well run; deliverables actioned; clear evidence was provided to support deliverables; and good project management was demonstrated (including meetings set up in advance and led with a clear agenda).

During a project we noted that there are a range of meetings, including project initiation meetings, steering group meetings, and progress and completion meetings. Where appropriate these are held through videoconferencing. Reports are also provided to funders.

Quality Assurance

The Innovation and STEM team uses a range of quality assurance and evaluation mechanisms including:

- internal quality review and discussion at team meetings about how projects have progressed;
- external review and evaluation;
- funder reviews;
- in-built feedback mechanisms from users, such as course evaluation forms; and
- reporting on projects to the Development Committee.

Compliance with Grant / Funding Conditions

Deliverables are one of the key elements of grant / funding conditions and are built into the Gantt chart / project activity plan by the project manager. Other controls to ensure compliance with grant / funding conditions include:

- larger projects have steering / advisory groups with reporting on key compliance issues;
- funders may carry out their own audits on projects; and
- the Smartsheets project file is set up to ensure that there is evidence for all project outputs, with a monetary sum attached to each output and supporting commentary and evidence provided for each outcome.