IT Strategy 2017-2020

Formal Review Cycle:	Annually		
Latest Formal Review (year/month):	**2017-03**	Next Formal Review Due (year/month):	**2020-03**
Policy Owner:	**Vice Principal Finance and Resources (JS)**		
Impact Assessed by:		Impact Assessment Date:	

APPROVAL REQUIRED:

SMT Y/N	**Y**	SMT Date approved:	**2017-03**		
Governor Y/N	**N**	Committee:	**N/A**	Governor Date approved:	**N/A**

PUBLICATION:

Website Y/N	**Y**	Intranet Y/N	**Y**	Student VLE Y/N	**Y**	Other:	
Area/s of Staff Intranet:		Strategies, Policies and Procedures/IT					

Policy description:
Craven College has invested in technology for many years to enhance the learning experience of its students, the resources available to staff and the efficiency of its' operation. The Technology Strategy for 2017– 2020 aims to improve and build on previous investment by undertaking additional development to further improve resources, reliability and efficiency of the system.

Supporting documentation:
- Craven College Strategic Plan 2016 - 2019
- Craven College Accommodation and Estates Strategy 2016-2021
- Single Equality Scheme

Links to other policies:
- Financial Strategy
- Environmental and Sustainable Development Strategy
- Health & Safety Policy
- Social Media Policy
- Electronic Data Storage Policy
- Data Protection Policy
- Staff Development Policy
- Health & Safety Policy
- Teaching, Learning and Assessment Strategy
- Prevent Strategy

1.0   Introduction

1.1   This document outlines the IT Strategy for the period 2017–2020. It seeks to define the vision and direction of travel for the deployment and exploitation of the IT capabilities of the organisation as a whole. This strategy has been developed in close alignment with the College's Strategic Plan and is a key enabler for the delivery of the major goals outlined within the Plan. The IT Strategy is owned by the IT Strategy Group who meet regularly to ensure that the objectives within the plan are met. The plan will be updated every year.

2.0   Executive Summary

2.1   As an FE College IT is a key enabler and core facilitator to our key goals of learning and teaching. It is therefore imperative that there is a clear and progressive IT Strategy which underpins the key goals of the College, with a delivery and governance that is highly integrated with the ongoing management of the institution.

2.2   The strategy applies to the whole College and covers each of its sites. Information and services provided by the College's ICT systems are non-exclusive and available to all students and staff.

2.3   The responsibility for the IT Strategy rests with the Senior Management Team. The Vice Principal Finance and Resources has responsibility for the achievement of the strategy. The Technology Services Manager is responsible for the implementation of the strategy. The IT Strategy Group is tasked with setting strategic priorities, receiving incident reports, reviewing network downtime as per its terms of reference. The Risk Management Group manages the IT risks on the Risk Register.

3.0   Context

3.1   The context for Craven College's IT Strategy has been informed by the College's Strategic Plan 2016-2019, together with the Accommodation Strategy 2016-2020 and the internal business requirements and external factors that influence the College's technology and service delivery choices. Reviews of the IT Service have also been taken into account.

3.2   The external environment impacting on the College is changing dramatically. College funding has reduced in real terms in recent years. Less European funding is available and capital funding is now provided through the Local Enterprise Partnerships and not the Skills Funding Agency.

3.3   Cyber security is paramount at the moment with Governments, companies and individuals required to remain constantly vigilant to the threat of cyber-attack. The past year has seen large corporations including Talk-Talk, hospitals in the UK and the US held for ransom over data attacks. The College suffered a similar incident in October 2016.

3.4   "The most devastating attacks by the most sophisticated attackers almost always begin with the simple act of spear-phishing," US Homeland Security Secretary Jeh Johnson stated in November 2016, referring to malicious emails that appear to come from a credible source and trick individuals into opening attachments.

3.5   In February 2017 the Office of Cyber Security and Information Assurance announced that Ministers have begun work on a new Internet Safety Strategy aimed at making Britain the safest country in the world for children and young people to be online. A report has been commissioned to provide up to date evidence of how young people are using the internet, the dangers they face, and the gaps that exist in keeping them safe. The focus will be on preventing children and young people from harm online and making the internet a safer place. It comes amid growing fears that the threat from online dangers has grown far more quickly than society's response to them, and worries that tech-savvy young people are being exposed to risks that their parents never were and might not know how to confront – like sexting, cyber bullying, and content which promotes self-harm, suicide and eating disorders.

3.6   Students are more confident users of IT than ever before. They come to College already familiar with modern IT facilities, including social networking, virtual learning and mobile working they expect the College estate to be comparable. All users expect IT to be available everywhere, to be truly mobile and available 24x7 on a device of their choice.

3.7   College administration must be as efficient as possible in order that the College is financially efficient and processes and procedures are as effective as possible. The College has focused on 'one touch' operations where all College systems 'speak' to each other and data is only keyed once. This focus will continue.

3.8   The General Data Protection Regulation (GDPR) is a regulation by which the European Parliament, the European Council intend to strengthen and unify data protection for individuals within the European Union (EU). It also addresses export of personal data outside the EU. The primary objectives of the GDPR are to give citizens back the control of their personal data and to simplify the regulatory environment for international business by unifying the regulation within the EU. When the GDPR takes effect it will replace the data protection directive from 1995. The regulation enters into application on the 25 May 2018 and will bring in a strengthening of the use of personal data. Organisations will have to think harder about privacy. The regulation mandates a "Risk Based Approach:" where appropriate organisation's controls must be developed according to the degree of risk associated with the processing activities. Individuals will have more information on how their data is processed and this information should be available in a clear and understandable way.

3.9   Safeguarding and the Prevent Strategy specifically outline that IT is a key factor in keeping young people safe. This strategy references the College's Safeguarding and Prevent Strategies.
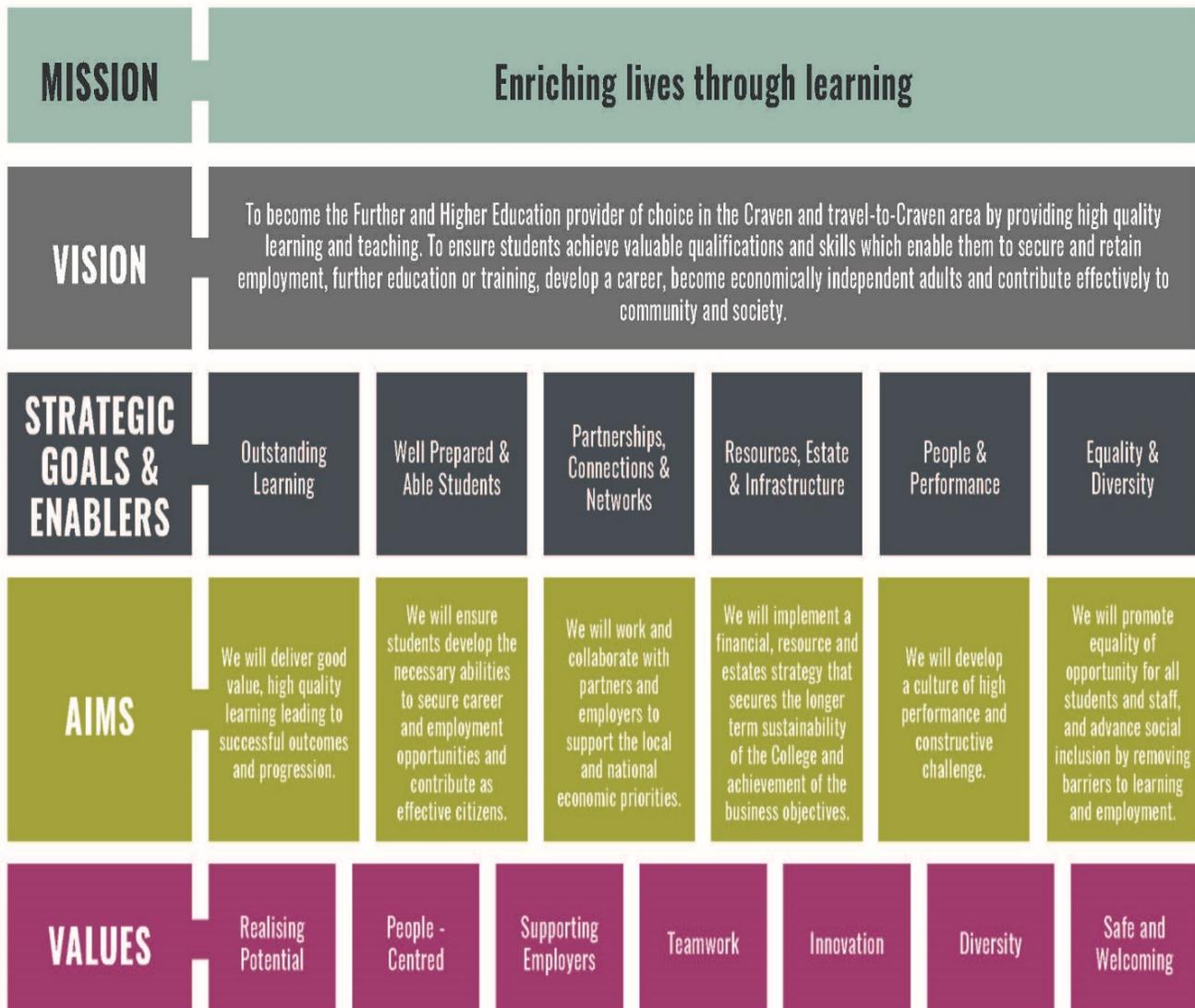
4.0   Aim

4.1   To consolidate previous accommodation strategies and updates into a three-year strategy, building on previous aims and achievements to enable the College to meet its strategic goals and enablers in delivering outstanding provision whilst continuing to drive down costs and increase efficiency.

5.0   Strategic drivers and objectives

5.1   Craven College continues to work in line with its Strategic Plan which embraces its mission statement and key strategic goals and enablers as summarised in the 'College on a page' diagram below:

CRAVEN COLLEGE ON A PAGE...

Craven college

MISSION	Enriching lives through learning
VISION	To become the Further and Higher Education provider of choice in the Craven and travel-to-Craven area by providing high quality learning and teaching. To ensure students achieve valuable qualifications and skills which enable them to secure and retain employment, further education or training, develop a career, become economically independent adults and contribute effectively to community and society.

STRATEGIC GOALS & ENABLERS	Outstanding Learning	Well Prepared & Able Students	Partnerships, Connections & Networks	Resources, Estate & Infrastructure	People & Performance	Equality & Diversity
AIMS	We will deliver good value, high quality learning leading to successful outcomes and progression.	We will ensure students develop the necessary abilities to secure career and employment opportunities and contribute as effective citizens.	We will work and collaborate with partners and employers to support the local and national economic priorities.	We will implement a financial, resource and estates strategy that secures the longer term sustainability of the College and achievement of the business objectives.	We will develop a culture of high performance and constructive challenge.	We will promote equality of opportunity for all students and staff, and advance social inclusion by removing barriers to learning and employment.
VALUES	Realising Potential	People - Centred	Supporting Employers	Teamwork	Innovation	Diversity	Safe and Welcoming

6.0 IT Services Strategic Operating Principles (How we deliver the IT Service)

6.1 The IT Team will apply industry best practice and common sense principles to create a unified, business-led culture at the College. Our aim is to provide centralised technology solutions which deliver local needs.

The following principles based on the College Strategic Values will drive the decision-making about technology investment:

Customer Experience Driven We deliver solutions that meet and adapt to user demands as they evolve	**Investor in people** We value our staff and invest in their career and knowledge
Secure and resilient We design solutions and select technologies that incorporate information management, security and data protection needs.	**Integrated and automated** We design systems with integrated solutions and strive to automate routine and manual tasks to enhance efficiency and customer service
Sustainable We actively contribute to the College carbon reduction plan by designing IT solutions that minimise the use of resources.	**Innovative Solutions** We develop innovative solutions when needed to address the College's unique requirements.

7.0   IT Strategic Themes (What we deliver)

7.1   Aligned to the College's Strategic Aims the following key strategic IT themes will drive excellence in knowledge creation and dissemination. The IT Strategy embraces the following key themes:

7.2   Each IT Strategic theme is broken down into more detail below:

1. Enhanced Customer Experience

- Recognise and embrace the widespread use of personal devices available to the modern IT customer.
- The opportunity to deliver learning materials via web-based or cloud-based systems.
- Ensuring customers have access to all relative assistive technologies.
- Promoting an anytime/anywhere culture.
- All in-College customer facing systems to be accessible through a 'single sign on' facility.

2. Current IT infrastructure

- Cloud Internet service/speed Digital Platform
- Physical network
- Virtual Servers
- Storage
- All core system databases should be standardised on Microsoft SQL.
- Identity Management
- Printing
- Internet
- Intranet
- Remote access
- helpdesk
- Ensure that all IT kit is appropriately safeguarded

3. Outstanding Data Management and Security

- Ensuring the ongoing availability of priority services
- Ensuring a means of recovery in the event of a disaster
- Data management complies with the current Data Protection Act and is updated to comply with the forthcoming General Data Protection Regulation (GDPR) (25 May 2018).
- The most up to date firewall is installed and reports are regularly acted upon
- Back-ups
- Disaster recovery

4. Knowledge and Communication

- Customers have access to clear instructions for all IT products
- Project management skills are used for all projects to ensure that best value and the stated objective are achieved for the College
- The IT environment is well documented for all key tasks (e.g. technical, architecture, business process, key suppliers, disaster management etc.)
- Customers are aware of their responsibilities re cyber security and data management.
- Training is a key priority for all staff on all systems and technologies, from end-user to support staff member.
- All customers are aware of and understand the IT Strategy.
- IT is managed on a risk management basis.

5. Efficient Business Systems*

- Simplified and consistent business systems
- 'One-touch' data entry allowing staff to add value to tasks and drive out costs
- Standardised reporting of data
- Efficient cross-College data access (sharepoint)
- Business systems are designed to promote partnership working

> *Business Systems:*
> o *Access - HR*
> o *Finance - Symmetry*
> o *Barclays.net – payments*
> o *Training*
> o *Pro Suite*
> o *PICS*
> o *Skype technology – improve meetings etc.*
> o *Disaster Recovery - data bases*
> o *Internet/Intranet*
> o *WET*

8.0   CURRENT IT ESTATE (Where are we now)

In the previous year the College has had two audits carried out of the IT Service and has factored the results from these audits into future strategy needs.

8.1   In June 2016 KPMG conducted an IT Audit Review using their IT Capability Model and based on an industry best practice standard. This model helped to inform a common understanding of the current IT service, processes and structures.

8.2   On Thursday, 6th October the College suffered a malware infection which took the main IT systems off-line until Tuesday, 11th October. Following this incident an external adviser was engaged to carry out an independent review to assess what had gone well and which areas the College needed to improve upon.

8.3 **Analysis of existing IT Estate**

8.3.1   The College has consistently spent a significant proportion of available capital on replacing and improving the IT Estate over the last three years, as the table below demonstrates:

Year end	Actual		
	Total Equipment Spend (£'000)	Total IT Spend (£'000)	%
2015	342	265	77%
2016 (CCIF new build)	950	208	22%
2017 (to 31 January 2017)	339	173	51%
2017 (budget for year)	418	228	55%

8.3.2   The table below shows the breakdown of the College IT equipment over all sites:

Site	Desktop Pcs	Photocopier MFDs / Printers	Projectors / TVs	Laptops	Tablets
Pen-y-Ghent	129	12	23	58	10
Whernside	184	9	13	52	0
Ingleborough	149	17	26	34	0
Ribblehead	12	1	5	0	0
Auction Mart	85	7	11	42	0
High Street	98	5	10	26	0
Tyro	49	6	3	30	26
Scarborough	24	1	4	12	0
Evolve (Ripon)	0	1	2	40	9
The Aviation Academy	64	3	8	21	0
Total	794	62	101	315	45

9.0   Outcomes and improvements required to achieve the It Strategy (Gap analysis)

1. Enhanced Customer Experience

- BYOD framework to recognise the growing trend of equipment owned and used by students and staff alike.
- Managed WiFi solution to enable continuation of connectivity to college resources from a variety of devices.
- Helpdesk FAQ system to help and advise people on any IT issues they may be experiencing.
- Develop further e-learning enhanced systems that can be delivered via the web, to include sharepoint, VLE, Office365.
- All students to use an Office 365 email address as their default.

2. Current IT infrastructure

- Ensure the SOPHOS Threat Management System is active across all sites.
- Ensure newly created backup process for the DPM servers is tested in terms of recovery.
- Expand CCTV system to enhance security.
- Expand Emergency power and failover systems to ensure access to data at all times.
- Ensure servers and infrastructure are quick enough to supply data in a modern network.
- Explore and implement the use of Virtual Desktop Infrastructure, to give a guaranteed user experience and expand the use of remote desktops.
- Further enhance WiFi infrastructure to include captive portal, securing the network from internal threats.

3. Outstanding Data Management and Security

- Create an exam suite-separate project plan needed.
- Identify exam legacy software that creates a vulnerability on the network.
- Consider third party penetration testing on an annual basis.
- Consider internal network scanning using appropriate software.
- Ensure DR plan and other procedures are kept up to date.
- Conduct a SPOF (Single Point of Failure) analysis to inform procedures and identify risk.
- Consider options for external hosting of web services instead of internal hosting to mitigate risk.
- Create an incident management process with a simple checklist to give high level guidance to staff who may assume responsibility for responding to an incident.

4. Knowledge and Communication

- Develop clear instructions for all products and technologies and ensure that they are easily accessible to customers.
- Deliver a segment at the College induction day for new staff.
- Document the IT environment for all key tasks (e.g. technical, architecture, business process, key suppliers, disaster management etc.).
- Produce information for customers explaining their responsibilities for cyber security and data management.
- Project Management Training to be undertaken to ensure efficient rollout of new systems.
- Set up drop-in sessions for staff to improve their knowledge.
- Disseminate the IT Strategy to all staff.
- Create Communications plan.
- Implement a skills matrix to assess gaps in team skills and identify areas of risk.

5. Efficient Business Systems*

- Explore the use of sharepoint.
- Ensure each business system has a recognised owner and that users are aware of this.
- Finance (Symmetry) system to be exported into a cloud based platform.

9.1   An IT Project Group has been established to deliver the improvements listed above. A project plan has been established along with SMART targets for delivery.

10.0   Planned Projects and Works 2017-2020

Building/Works	CCTV Expansion
Current Location	Airedale Campus all buildings except Ingleborough
Usage	Not applicable
New Location	Extended capability in all buildings including a system in Ingleborough
Timescale	31 September 2017
Cost	£4,246

Detail:

The purpose of this project is to increase the coverage of the existing CCTV system and to put coverage into Ingleborough.

This project includes purchasing new cameras and an operating system and for these to be fitted as per the recent CCTV Audit.

Building/Works	Animal Management Unit IT link
Current Location	Auction Mart Campus
Usage	Teaching and delivery of animal management programmes
New Location	Aireville Campus
Timescale	December 2017
Cost	£6k (seeking 50% contribution from the YNYER LEP)

Detail:

Animal management and care of animals is currently delivered in leased accommodation at the Auction Mart Campus. The proposal is to create an animal management unit at the Aireville Campus to meet the needs of these students and increase enrolments through providing improved accommodation.

This project includes laying a fibre link from Pen-y-Ghent to the new building in order to provide the IT services.

Building/Works	Exam Suite
Current Location	Any College IT Suite
Usage	Not applicable
New Location	Quiet Room LRC
Timescale	By 31 August 2017
Cost	£10k

Detail:

The purpose of this project is to protect the College from virus threats. Many Exam Boards use Flash as their main driver this is shortly to become unsupported by Microsoft and is vulnerable to hacking due to its age.

This project includes transforming the Quiet Room in the LRC into a bookable Exam Suite that is on a separate network to the main College systems.

Building/Works	Emergency power and failover systems
Current Location	Penyghent Building
Usage	Penyghent servers
New Location	Plant Room / Server Room
Timescale	By 31st August 2018
Cost	£30k

Detail:

As data services are now being centralised to the Penyghent building, it is becoming increasingly important to ensure that power for the data centre is maintained at all times. A project of consultancy and requirements is needed to enable the retrofit of emergency power systems into this area, as well as eventual fitting.

Building/Works	Network and Disk Speed
Current Location	Penyghent Building
Usage	Penyghent servers
New Location	Server Room
Timescale	By 31st August 2018
Cost	£75k

Detail:

Due to the increase on demand to data storage, it is becoming apparent that speed of data storage is now a problem. The college, whilst having sufficient capacity in its data storage server, has problems in the speed it can serve data to all its clients. A storage area network (SAN) has never been fully implemented by the college for such use, and would clear the problems that currently exist as the colleges reliance on quick data increases.

A project involving 3rd party consultancy from major vendors needs to be put in place to advise and aid in procurement of such technologies.

Network speed is still an issue is some areas of the college, where old legacy network switches are used and not HP Procurve as is the colleges standard. An exercise in replacing these legacy switches is needed to ensure that no bottlenecks can exist further exasperating problems in accessing data and the internet.

Building/Works	Virtual Desktop Infrastructure
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 31st August 2019
Cost	£25k

Detail:

To provide and control desktops to clients who use BYOD and deliver a guaranteed user desktop experience from anywhere. A user would be able to use any type of device to access a common desktop loaded with applications and controlled via a central management software suite. This could potentially allow access to data that would not necessarily be readily available via conventional methods, such as MIS information for registers, and strengthen security to BYOD clients.

Building/Works	Wi Fi infrastructure
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 31st August 2018
Cost	£10k

Detail:

The college needs to expand its Wi Fi infrastructure to encompass all sites and to promote efficient use of BYOD. This project will involve consultancy from external vendors, configuration of a separate Wi Fi network available across all sites, separate firewall rules and a captive portal solution.

Building/Works	External Hosting
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 31st August 2017
Cost	£ 1000 per annum

Detail:

As technologies move more towards cloud based infrastructure, and to reduce risk associated with internal infrastructure being made available through firewalls to all clients on the internet, we require a project that looks at our current web servers and the feasibility of migrating these to an external facility. If the feasibility is deemed to be acceptable, then the project should continue to the actual migration of these websites over to the external web server hosts.

Building/Works	Sharepoint Services
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 31st August 2018
Cost	£5000

Detail:

As part of our Office365 subscription, the college has access to Microsoft SharePoint services. In order to improve efficiency and create an external file repository, the college needs to explore its current systems and create a SharePoint infrastructure to serve this.

Building/Works	GDPR data management software
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 31st August 2017
Cost	£10k per annum

Detail:
The college recognises the change to the Data Protection Laws that the Government are to introduce by May 2018. In order to ensure compliance, the college needs to undertake an exercise on mapping its data structure and flow of data through the organisation. After this project has been completed the college may need to procure some software to ensure GDPR compliance is met with data that has been previously identified. (Example is Collibra)

Building/Works	Main Website Re-design
Current Location	Any College Site
Usage	Customers
New Location	All Sites
Timescale	By 31 August 2016
Cost	0

Detail:
- Re-design from the new standard set in Marketing's Corporate guidelines
- Offer a greater user experience for customers across all devices
- Program to use existing data from across College in order to reduce data duplication and unnecessary administration time

Building/Works	Part Time website Re-design
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 1 January 2017
Cost	0

Detail:
- Re-design from the new standard set in Marketing's Corporate guidelines
- Bring in line with new website instead of separate location
- Offer a greater user experience for customers across all devices
- Program to use existing data from across College in order to reduce data duplication and unnecessary administration time

Building/Works	Course Application System Re-design
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 31 July 2017
Cost	0

Detail:
- Re-design from the new standard set in Marketing's Corporate guidelines
- Offer a greater user experience for customers across all devices
- Program to use existing data from across College in order to reduce data duplication and unnecessary administration time
- Include greater functionality for the customer in terms or accepting offers online and communication
- System administration features for Student Services to reduce their administration time

Building/Works	The Aviation Academy Website Re-design
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 31 July 2017
Cost	0

Detail:
- Re-design from the new standard set in Marketing's Corporate guidelines
- Bring in line with new website instead of separate location
- Offer a greater user experience for customers across all devices
- Program to use existing data from across College in order to reduce data duplication and unnecessary administration time

Building/Works	Brasserie Website Re-design
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 31 July 2017
Cost	0

Detail:
- Re-design from the new standard set in Marketing's Corporate guidelines
- Bring in line with new website instead of separate location
- Offer a greater user experience for customers across all devices
- Program to use existing data from across College in order to reduce data duplication and unnecessary administration time

Building/Works	The Shop Website Re-design
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 31 August 2017
Cost	0

Detail:
- Re-design from the new standard set in Marketing's Corporate guidelines
- Bring in line with new website instead of separate location
- Offer a greater user experience for customers across all devices
- Incorporate products within subject area pages

Building/Works	Craven Educational Trust Website Re-design
Current Location	Any College Site
Usage	Not Applicable
New Location	All Sites
Timescale	By 31 December 2017
Cost	0

Detail:
- Website content advanced and in need of a re-design
- Offer a greater user experience for customers across all devices