Information Technology Project Management

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Policy Owner:
Scott Midkiff

Policy Author:
(Contact Person)
Brenda van Gelder

Affected Parties:
Faculty
Staff

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1.0 Purpose

Virginia Tech is committed to continually improving the delivery of information technology solutions within budget, on schedule, within scope, and in such a way as to best contribute to accomplishing the university's mission and strategic plans. This policy furthers that goal by establishing the common and consistent application of project management best practices in the management of information technology (IT) projects.

The Commonwealth of Virginia Restructured Higher Education Financial and Administrative Operations Act of 2005 grants institutions additional authority over financial and administrative operations, on condition that certain commitments to the Commonwealth are met. Virginia Tech's Management Agreement with the Commonwealth provides full delegated responsibility for management of the institution's information technology project management and project auditing activities. This delegation includes the authority to conduct these activities in accordance with industry best practices appropriately tailored for the specific circumstances of the university, in lieu of following Commonwealth-determined specifications. This policy documents the industry best practices with which the university will align its project management and project auditing activities.

2.0 Policy

Information technology projects will be managed in a manner that is aligned with best practices promoted by nationally recognized organizations such as the Project Management Institute (PMI), Scrum.org, and Agile Alliance, appropriately tailored to the specific circumstances of the university. Projects that engage leading IT consulting or software development firms to assist with project management may apply additional best practices provided by these firms.

Methods used for project auditing, such as Independent Verification and Validation (IV&V), will be aligned with industry best practices, consultant expert guidelines, and known industry accepted standards, such as Institute of Electrical and Electronics Engineers (IEEE) Standard 1012-2004 for Software Verification and Validation, International Standards Organization (ISO) 9000-2000 series, and Software Engineering Institute Capability Maturity Model (SEI-CMM). These methods will be tailored to the higher education environment by internal departments and in coordination with consultants as warranted.

Project managers will possess an appropriate level of project management training or experience, which may include formal professional certifications.

This policy is established to support the university community in the management of information technology projects by application of standardized project management principles, tools, and methods. A uniform project management framework promotes consistency and better control of IT projects, thereby reducing risks and increasing project successes.

This policy does not apply to research projects, research initiatives, or instruction. While those activities are excepted from this policy, the project management tools and resources are available for voluntary use as desired for research projects, initiatives, and instruction. Anyone may use these tools.

3.0 Procedures

An overview of the university's IT Project Management Framework, along with procedures, templates, and tools are posted on the Division of Information Technology website http://www.it.vt.edu/.

4.0 Definitions

Instruction – Teaching; education

IT Project – A project having as its primary purpose to create a unique information technology project, service, or result.

PMI - Project Management Institute

Project - a temporary endeavor undertaken to create a unique product, service, or result (PMI – Project Management Body of Knowledge (PMBOK Guide.))

Project Management - the application of knowledge, skills, tools, and techniques to mitigate risk, control budget, and manage scope of tasks.

Research Project – a discrete scientific endeavor to answer a research question or a set of research questions.

5.0 References

Institute of Electrical and Electronics Engineers (IEEE) Standard 1012-2004 for Software Verification and Validation – Software Verification and Validation (V&V) processes determine whether the development products of a given activity conform to the requirements of that activity and whether the software satisfies its intended use and user needs. Software V&V processes includes analysis, evaluation, review, inspection, assessment, and testing of software products. (https://standards.ieee.org/standard/1012-2012.html)

International Organization for Standardization (ISO) – Quality Management Principles (ISO 9000:2000) – ISO 9001:2000 specifies requirements for a quality management system for any organization that needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements and aims to enhance customer satisfaction. (https://www.iso.org/standard/62085.html)

Project Management Institute – A not-for-profit professional association in the area of project management. The following publication is of particular interest: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK Guide).* (https://www.pmi.org)

Agile Methods – especially Scrum promoted by Scrum.org (https://www.scrum.org/) and Agile Alliance (https://www.agilealliance.org/)

Software Engineering Institute - Capability Maturity Model Integration (SEI-CMMI) – The CMM outlines the methods to obtain software process maturity. Several levels of maturity can be reached as an organization's software project management evolves from that of chaotic non-repeatable performances to repeatable mature disciplined software processes. The model focuses on key attributes of each improved maturity level and provides guidance on the best practices used to achieve each level. The goal is to reach an efficient and disciplined approach to software management. (https://cmmiinstitute.com/pm)

6.0 Approval and Revisions

Approved April 28, 2006 by Earving L. Blythe, Vice President for Information Technology.

Approved June 12, 2006 by the Virginia Tech Board of Visitors.

- Revision 1
  - Section 2:
    - Align Virginia Tech information technology project management with nationally recognized organizations, such as the Project Management Institute and Scrum Alliance.
    - Replaced Section "2.1 Scope" with a paragraph describing exclusions.
  - Section 4:
    - Added definitions for "IT Project" and "Research Project".
    - Removed edition number from PMBOK reference.

  Approved September 20, 2017 by the Vice President for Information Technology and Chief Information Officer, Dr. Scott F. Midkiff.

- Revision 2
  Technical updates for clarification on definitions and links.

  Approved October 21, 2021 by the Vice President for Information Technology and Chief Information Officer, Dr. Scott F. Midkiff.