



## **Post-Baccalaureate Certificate in Project Management** *With Two Tracks: Information Technology and Life Sciences*

April 29, 2019

### **A. Centrality to Institutional Mission and Planning Priorities:**

#### ***I. Program Overview***

For more than 125 years, Hood College has prepared students for successful careers and the responsibilities of citizenship. Hood College's mission reads, "Through an integration of the liberal arts and the professions, Hood College provides an education that empowers students to use their hearts, minds and hands to meet personal, professional and global challenges and to lead purposeful lives of responsibility, leadership, service and civic engagement."

The College, located in Frederick, MD, is widely recognized for its degree programs, opportunities for high-caliber research in the natural sciences, and its industry partnerships. Hood College offers 33 undergraduate majors, master's degrees in 19 professional areas, 11 post-baccalaureate certificate programs and two doctoral degrees in organizational leadership. More than 1,100 undergraduates and nearly 1,000 graduate students from across the nation and the world are currently enrolled at Hood.

Hood College works closely with the local and regional business community and is responsive to industry needs. Located in Frederick, Hood is conveniently located along the I-270 technology corridor, and as such, has numerous opportunities to drive workforce development. The area is home to more than 80 bioscience companies as well as the federal labs of the DOD, DHHS, DHS and USDA at Fort Detrick and the National Cancer Institute. Frederick County has witnessed 37.9% growth in high-tech companies from 2001-2013, an average weekly wage of \$1,174 per worker in the information sector, and \$20 million in annual wages in the information sector.

Frederick County supports this thriving technology environment with various partnerships and organizations such as:

- The Advanced Technology Partnerships Initiative where Frederick National Cancer Institute lab facilities, space, and expertise are available for cooperative R&D

projects with academia, government, and life sciences industry partners to accelerate cancer and AIDS translational research;

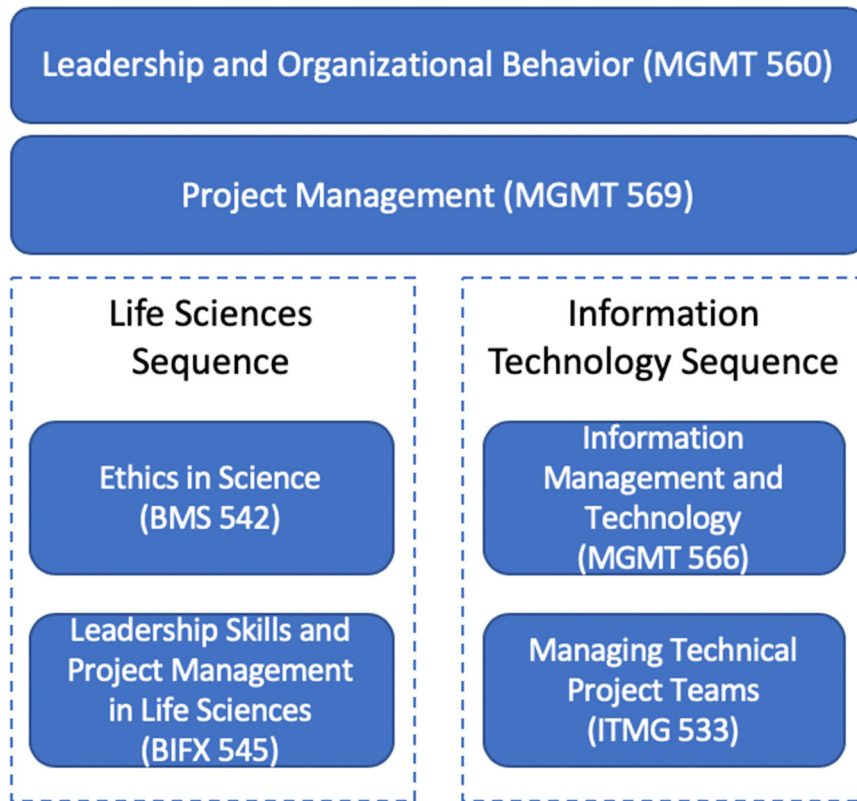
- Tech Frederick, which fosters awareness of, advocates for, and develops Frederick's growing high tech community through community education and human resource development, entrepreneurship training programs and seminars, and related events;
- The Frederick Innovative Technology Center, Inc. (FITCI), which is a business incubator that supports early stage biotechnology, information technology, and renewable energy start-up companies by offering office and lab space, business services, and strategic support to local entrepreneurs.

The Frederick partnerships listed above are indicative of the thriving technology culture in which Hood College is fortunate to be immersed and are demonstrative of the need for continued education in specialized skills. Many of the region's working professionals choose Hood College to enhance their careers by completing a graduate program resulting in either a certificate or a master's degree. Consequently, Hood is receptive to employer demands in terms of skills and capabilities needed within the increasingly technical workforce. Growing out of conversations with local businesses, particularly Leidos Biomedical Research, Inc. (Appendix I), and government agencies, it became clear that it would be advantageous for Hood College to design and offer a graduate certificate in project management to serve the diverse needs in the Frederick and regional communities. Specifically, the project management curriculum is designed to meet the needs of:

1. Professionals managing projects in the **life sciences and bioinformatics** sector; and,
2. Those engaging in project management of **information technology** projects

## ***II. Detailed Description of the Program***

Students must complete four three-credit courses for a total of twelve credits for the certificate with a minimum grade point average of 3.00. Two courses (six credits) will cover general project management competencies and the remainder of courses will come from completion of either two courses (six credits) from a sequence of courses in Life Sciences or Information Technology.



The framework proposed for the certificate includes a “core” set of courses covering general theories in leadership, organizational behavior & structure, and project management techniques. These are provided from two courses in the current MBA offerings at Hood:

1. MGMT 560 -Leadership and Organizational Behavior
2. MGMT 569 - Project Management

MGMT 560 is offered each Fall and Spring semester and is typically the first course business graduate students take upon completing the foundation requirements. MGMT 569 is offered each Spring.

Following completion of this core, students will take a two-course sequence meant to offer specialized skills within either the Life Sciences or Information Technology. For the Life Sciences sequence, students will complete the following course sequence:

1. BMS 542 - Ethics in Science
2. BIFX 545 - Leadership Skills and Project Management in the Life Sciences

These courses are offered as part of our Bioinformatics and Biomedical Science graduate programs and are available on a predictable schedule each year.

For those pursuing the sequence of courses in Information Technology, they will complete the following two courses:

1. MGMT 566 - Information Management and Technology
2. ITMG 533 - Managing Technical Project Teams

These courses are offered as part of our MBA, MIS, and IT programs and offered on a routine basis. In both the Life Sciences and Information Technology sequences, students will be permitted to substitute appropriate special topic courses (ITMG 599 or BIFX 599) or directed independent study (ITMG 575 or BIFX 575) with direct topical focus towards project management and with permission of advisor.

The standard sequences would take place over four semesters with the potential for completion in a 10-month span (with the completion of summer courses).

### ***III. Descriptions of Courses***

**MGMT 560 - Leadership & Organizational Behavior | Credits 3.00**

Prerequisite: MGMT 551 or its equivalent. Study of the behavior of individuals, small groups and their leaders in organizations. Among the topics addressed are motivation, learning, perception, job satisfaction, communication and individual and group change.

**MGMT 569 - Project Management | Credits 3.00**

Prerequisites: ECON 560, MGMT 551, MGMT 560, MGMT 552 and MATH 500 or ECMG 556, or their equivalents or permission of instructor. This course is an overview of the management of projects and project teams. Students explore different techniques for developing effective project plans, leading and directing project teams, and delivering and measuring results according to the constraints of schedule, budget, and resources. Use of modern project management software is emphasized.

- Note that the Pre-requisites for this course will be modified to include MGMT 560 as an option

**BMS 542 - Ethics in Science | Credits 3.00**

No Prerequisites. The course considers the ethical dilemmas one could face in a career in science, including how information gained in the research lab is conveyed to the wider scientific audience. Topics included are the peer review process, the patent process, the Recombinant DNA Advisory Committee, the FDA's role in drug approval, the funding of research and the national research prioritization process.

**BIFX 545 - Leadership Skills/Proj Mgmt in Life Sci | Credits 3.00**

Prerequisites: BIFX 501 or 502. Lab fee. Within the context of Bioinformatics – a cross-disciplinary field that uses computers, statistics, and mathematics to store, model and analyze biological data - the goal of the course is to enable translational, interdisciplinary scientists to understand the importance of leadership to the field and the team. Candidates

will explore their own leadership style, consider leadership qualities necessary for a successful team, understand the interactions within a complex matrix environment in a Life Science organization and apply leadership and management skills to bioinformatics projects.

**MGMT 566 - Information Management & Technology | Credits 3.00**

Prerequisite: MGMT 551 or its equivalent. This course examines the role of information systems in organizations. Students explore the various ways in which information technology provides a competitive advantage to organizations. Managerial concerns related to the selection, evaluation and implementation of information systems are also examined.

**ITMG 533 - Managing Technical Project Teams | Credits 3.00**

Prerequisite: ITMG 527 or ITMG 516. This course investigates the process of managing a computer-related project. It includes scheduling techniques and automated tools such as scheduling packages. Focus will be on the team environment conducive to successful project completion.

- Note that the Pre-requisites for this course will be modified to include MGMT 566 as an option

#### ***IV. Expected Student Learning Outcomes***

Upon completion of the concentration, students who achieve a certificate in project management will be able to:

1. Design projects effectively and efficiently, within the constraints of schedule, budget, and resources, to achieve business goals.
2. Apply risk analysis and management strategies to analyze, evaluate, and mitigate project risks.
3. Apply the different approaches and techniques to critically assess the effectiveness of supply chains and logistics and to recommend changes, as necessary, to improve overall performance.
4. Demonstrate how organizations use efficient operations, project, and supply chain management considerations to achieve a competitive advantage in their industries.
5. Effectively communicate project management considerations with different internal and external stakeholders.
6. Be able to articulate project management theories consistent with best practice in either the Life Sciences or Information Technology

#### ***V. Program Funding and Institutional Commitment***

Hood College remains committed to ongoing administrative, financial, and technical support of this program. All the courses used to construct this new certificate are standard components of other longstanding programs at the college and have been taught a

minimum of four semesters. Moreover, Hood College recently received a \$1M E-nnovation award from the State of Maryland to establish an endowed chair in Project Management. This was a matched award from the State, with Hood College providing an additional \$1M. This new position will oversee the curriculum and administration of the Project Management Certificate.

## **B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan:**

### ***I. Regional & Statewide Needs***

Over the past several decades, the U.S. has shifted towards an information economy where knowledge workers collaborate to deliver products and services of increasing scale and complexity. As this shift occurred, newer skillsets, education, and background grew in importance. While many of these skills – information technology, international relations, and quantitative methods to name a few – fostered the development of specialized curricula in higher education, others have lagged in their adoption. As of 2012, more than 51% of the U.S. GDP comes from project-oriented sectors (2012 U.S. BLS, U.S. Dept. of Commerce) - an amount that has grown over the past decades and which is only predicted to rise in the years ahead. Fast forward to today and these concerns have only grown more pronounced. A 2015 report in *Nature*, “Life Sciences Workforce Trends Evolve with the Industry,” describes this need for multidisciplinary education in the sciences:

Traditionally, the approach to development within the life sciences industry has leaned heavily on individuals trained in disciplines such as chemistry and biology. However, data from the qualitative interviews reveal that simply having a basic science degree is no longer enough to be successful. The findings suggest that there is an absolute need for “professional hybrids”— individuals who have the skill sets necessary to link scientific knowledge with business acumen to help advance a product or technology through its life cycle.<sup>1</sup>

As with the life sciences, the need for project management experience and innovation remain ongoing points of importance in the information technology sector. Elizabeth Churchill, Director of User Experience at Google and distinguished scientist of the Association for Computing Machinists (ACM), remarked on the importance of project management in cross-disciplinary collaboration, “In acknowledging this, we cross disciplines of research and practice, from human-computer interaction to computer-supported cooperative work to project management. For most projects in the world, success or failure rests upon the quality of the project management.”<sup>2</sup>

---

<sup>1</sup> Nugent, K. L., & Lindburg, L. (2015). Life sciences workforce trends evolve with the industry. *Nature biotechnology*, *33*(1), 107.

<sup>2</sup> Churchill, E. F. (2017). Planning time: HCI's project-management challenges. *Interactions*, *24*(5), 20-21.

These same concerns have been voiced in the Federal Government – the largest employer of Maryland residents. In the foreword of their report, “Improving Program Management in the Federal Government,” the National Academy of Public Administration notes:

At the start of each new Congress, the Government Accountability Office (GAO) publishes a High-Risk List documenting issues and programs requiring additional attention due to their greater vulnerabilities to fraud, waste, abuse, and mismanagement or the need for transformation to address economy, efficiency, or effectiveness challenges. Many of the 32 High-Risk areas highlighted by GAO in 2015 are associated with the federal government’s program and project management challenges, such as business transformation at the U.S. Department of Defense, managing risks and improving healthcare at the U.S. Department of Veterans Affairs, and the management of oil and gas revenues.<sup>3</sup>

These needs are pertinent not only to these industries as a whole but also to the broader workforce needs of Maryland specifically. A 2016 report of the Metropolitan Washington Council of Governments, “Trends in Workforce Demand,” evaluated the “education, experience, and skills desired by employers recruiting the top ten occupations in greatest demand” noting that, “this information could potentially be leveraged to evaluate existing workforce development programs in metropolitan Washington.”<sup>4</sup> In half of the top ten occupations (including the highest paying occupation), project management was listed as the prominent skill in job postings.

This proposal, for the development of a post-baccalaureate certificate in Project Management, with sequences in either Life Sciences Project Management or Information Technology Project Management matches directly the needs articulated in the innovation goal (goal 4) of the Maryland State Plan for Postsecondary Education.<sup>5</sup> Increasing the Maryland workforce with Project Management skills that intersect with STEM competencies further promotes the State’s efforts to develop companies and manage key projects in this sector. Further supporting this workforce need, one of the largest employer’s in the Frederick region, Leidos Biomedical Research Inc., has been essential in the development of this proposal, which has largely been driven by the need for this skillset in their own company (Appendix I).

---

<sup>3</sup> Marshall, P. & Chenok, C. D. J. Wholey. (2015). Improving program management in the Federal Government. National Academy of Public Administration. Retrieved from <https://www.pmi.org/business-solutions/white-papers/improving-program-management-in-the-federal-government>

<sup>4</sup> Metropolitan Washington Council of Governments. (2016). Trends in workforce demand. Retrieved from <https://www.mwcog.org/documents/2016/10/25/trends-in-workforce-demand/>

<sup>5</sup> The Maryland Higher Education Commission. (2014). *Maryland Ready*. Retrieved from [https://mhec.state.md.us/Documents/MHECStatePlan\\_2014.pdf](https://mhec.state.md.us/Documents/MHECStatePlan_2014.pdf)

## ***II. Critical and Compelling Need as Identified in the State Plan***

The proposed concentration is related to the following three state plan goals – Quality and Effectiveness (Goal 1), Innovation (Goal 4), and Economic Growth and Vitality (Goal 5). With respect to the goal of quality and effectiveness, adding a concentration in project management in an ACBSP-accredited MBA program at a reputable college like Hood fits into the State’s goal of “enhancing its array of postsecondary education institutions and programs.” The proposed program also supports the goal of innovation to “prepare graduates for life-long learning, and preparation for a robust workforce.” Additionally, it supports Goal 5 that “Maryland will stimulate economic growth, innovation, and vitality by supporting a knowledge-based economy through increasing education and training.”

As workplace needs change, it is important that business programs reflect these changing needs by providing an educational experience in tune with new demands. As projects assume greater significance in the workplace, project management skills are becoming a strategic competency in organizations.<sup>6</sup> In this context, it becomes imperative that business programs offer education and training in project management.

As duly noted in the state plan, Maryland is home to a number of high-tech companies. Project management skills are one of the most sought after skills in organizations today,<sup>7</sup> especially in those organizations in industries, which are very project heavy. These industries include IT, biotech, construction, architecture, and engineering. Government contracting and procurement, another major source of jobs in Maryland, also relies heavily on project management skills. In summary, the proposed concentration in project management is in alignment Maryland’s goals to be a leader in “workforce readiness and supporting a knowledge-based economy through education and training.”

### **C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State:**

Project managers are responsible for the formulation and implementation of projects from beginning to end. They can be found in many organizations in different industries, such as software development, construction, architecture, defense, and telecommunications. According to a report by the Economist Intelligence Unit, project management competencies are a key critical skill that executives identify to as crucial to company performance and remaining competitive.<sup>8</sup> The skills of project management cross-cut a multitude of disciplines, from information technology to healthcare to professional

---

<sup>6</sup> <http://www.projecttimes.com/articles/project-management-as-a-core-corporate-competence.html>

<sup>7</sup> <http://www.articlesbase.com/leadership-articles/the-importance-of-project-management-in-organizations-246928.html>

<sup>8</sup> Economist Intelligence Unit. (2009). Closing the gap - The link between project management excellence and long-term success. Available at: <http://www.oracle.com/oms/eppm/report-economistintelligenceunit-en-248045.pdf>



services. As of 2012, more than 51% of the GDP comes from project-oriented sectors<sup>9</sup> - an amount that has grown over the past decades and which is predicted to increase in the years ahead.

As a unique role, project managers are not listed as a separate occupation by the Bureau of Labor Statistics.<sup>10</sup> So other managerial occupations, where projects are more common, are used to estimate market demand for project management. These occupations are described in Table 1.

**Table I - Job Outlook in Occupations that Commonly Use Project Management**

Type	SOC Code	Job Outlook 2012-2022	Relevance to Maryland <sup>11</sup>
Management Analysts	13-1111	19% <sup>12</sup>	One of the top three states for jobs and location quotients for this occupation. (Rank = 3)
Medical/Life Scientists	19-1042	10% <sup>13</sup>	Top metro area in the country with the highest employment level in this occupation. (Rank = 1) <sup>14</sup>
Computer and Information Systems Managers	11-3021	15% <sup>15</sup> :	One of the top five states for jobs and location quotients for this occupation. (Rank = 5)
Information Security Analysts	15-1122	37% <sup>16</sup>	One of the top two states for jobs and location quotients for this occupation. (Rank = 2)
Operations Research Analysts	15-2031	27% <sup>17</sup>	One of the top three states with the highest concentration of jobs and location quotients for this occupation. (Rank = 3)

<sup>9</sup> [http://www.pmi.org/~media/PDF/Academic/San-Diego/Ed\\_Global%20growth%20of%20PM.ashx](http://www.pmi.org/~media/PDF/Academic/San-Diego/Ed_Global%20growth%20of%20PM.ashx) summarizing 2012 data from the Bureau of Labor Statistics, U.S. Dept. of Commerce

<sup>10</sup> Divincenzo, Tom. (2006). Project Managers Stay in Charge and Out Front. *Occupational Outlook Quarterly*. Summer, 19-25.

<sup>11</sup> From BLS' Occupational Employment and Wages, May 2013

<sup>12</sup> <http://www.bls.gov/ooh/business-and-financial/management-analysts.htm#tab-6>

<sup>13</sup> <https://www.bls.gov/ooh/life-physical-and-social-science/medical-scientists.htm#tab-6>

<sup>14</sup> <https://www.bls.gov/oes/2017/may/oes190000.htm>

<sup>15</sup> <http://www.bls.gov/ooh/management/computer-and-information-systems-managers.htm#tab-6>

<sup>16</sup> <http://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm#tab-6>

<sup>17</sup> <http://www.bls.gov/ooh/math/operations-research-analysts.htm#tab-6>

Software Developers	15-1132/33	23% <sup>18</sup>	One of the top metropolitan areas with the highest level of employment in this occupation. (Rank = 3)
Medical and Health Services Managers	11-9111	23% <sup>19</sup>	The top state in the country with the highest concentration of jobs and location quotients. (Rank =1)

---

<sup>18</sup> <http://www.bls.gov/ooh/computer-and-information-technology/software-developers.htm#tab-6>

<sup>19</sup> <http://www.bls.gov/ooh/management/medical-and-health-services-managers.htm#tab-6>

**D. Reasonableness of Program Duplication:**

Although Project Management programs exist at several institutions both within Maryland and in our capital metro region, Hood’s proposed program is distinctive in its IT and Life Sciences focus. Appendix II provides a comparison chart showcasing programs at ten regional institutions and those within the State of Maryland. This chart includes information about program time, cost, and courses included in the degree or certificate program.

While there are many programs that offer more generic instruction around project and program management, the unique aspects of the Hood certificate, principally its focus on project management in the Life Sciences or Information Technology, are not duplicated elsewhere in the State or region. We respectfully submit that there is room for our programs in this region, especially given the fact that project management skills within the Life Sciences and Information Technology are gaining greater attention and interest for value addition in organizations.

**E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)**

Of the HBIs in Maryland, only Morgan State offers a graduate option for project management education, offering both a certificate and MS degree. A review of courses for these programs shows no overlap in the project management courses specific to the Life Sciences or Information Technology. See Table II: for a breakdown of the current institutions’ offerings.

**Table II - Review of Project Management Programs at Maryland HBIs**

Graduate Project Management Program?	School	Evaluation of Related Programs
No	Coppin State	No PM certificates. Undergrad degree (B.Sc.) in Management with an online option for same degree
No	Bowie State	No PM certificates. Only grad business track is Public Administration
Yes	Morgan State	PM certificate and an MS degree in Project Management

## **F. Relevance to the identity of Historically Black Institutions (HBIs)**

Not applicable.

## **G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes** (as outlined in COMAR 13B.02.03.10):

### ***I. Describe how the proposed program was established and also describe the faculty who will oversee the program.***

The faculty in our Delaplaine School of Business proposed this certificate program in close collaboration with our biology and computer science faculty, given the two track options in Life Sciences and IT. The faculty who will oversee the program are listed in **Section I** below. Moreover, Hood College recently received a \$1M E-nnovation award from the State of Maryland to establish an endowed chair in Project Management. This was a matched award from the State, with Hood College providing an additional \$1M. This new position will oversee the curriculum and administration of the Project Management Certificate.

### ***II. Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and (modality) of the program.***

Upon completion of the concentration, students who achieve a certificate in project management will be able to:

- Design projects effectively and efficiently, within the constraints of schedule, budget, and resources, to achieve business goals.
- Apply risk analysis and management strategies to analyze, evaluate, and mitigate project risks.
- Apply the different approaches and techniques to critically assess the effectiveness of supply chains and logistics and to recommend changes, as necessary, to improve overall performance.
- Demonstrate how organizations use efficient operations, project, and supply chain management considerations to achieve a competitive advantage in their industries.
- Effectively communicate project management considerations with different internal and external stakeholders.
- Be able to articulate project management theories consistent with best practice in either the Life Sciences or Information Technology

The above outcomes are appropriate given the focus and scope of this post-baccalaureate certificate, which also align with our current ACBSP accreditation standards.

**III. Explain how the institution will provide for assessment of student achievement of learning outcomes in the program and document student achievement of learning outcomes in the program**

The proposed learning outcomes are introduced and reinforced across different courses in the proposed certificate. Course learning outcomes are aligned with the criteria established by the ACBSP accreditation standards for project management.

Rigorous, on-going assessment will be conducted to examine the learning outcomes of students against scoring rubrics using various evaluation opportunities activities such as tests, lab exercises, projects, case studies, research papers, and oral presentations. Collected data and feedback from these ongoing assessment activities will be evaluated on an annual basis to ensure continuous improvement and guide any necessary curricular adjustments.

Our students will obtain a rigorous academic foundation, advanced knowledge and skills while sharpening their project management, problem-solving abilities working on hands-on assignments. At the time of completion, our project management graduates will be well prepared to obtain employment or tackle any related professional certification exams (e.g., PMP) they may deem necessary to validate their skills in the workplace.

**IV. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements.**

MGMT 560 - Leadership & Organizational Behavior | Credits 3.00

Prerequisite: MGMT 551 or its equivalent. Study of the behavior of individuals, small groups and their leaders in organizations. Among the topics addressed are motivation, learning, perception, job satisfaction, communication and individual and group change.

MGMT 569 - Project Management | Credits 3.00

Prerequisites: ECON 560, MGMT 551, MGMT 560, MGMT 552 and MATH 500 or ECMG 556, or their equivalents or permission of instructor. This course is an overview of the management of projects and project teams. Students explore different techniques for developing effective project plans, leading and directing project teams, and delivering and measuring results according to the constraints of schedule, budget, and resources. Use of modern project management software is emphasized.

- Note that the Pre-requisites for this course will be modified to include MGMT 560 as an option

BMS 542 - Ethics in Science | Credits 3.00

No Prerequisites. The course considers the ethical dilemmas one could face in a career in science, including how information gained in the research lab is conveyed to the wider scientific audience. Topics included are the peer review process, the patent process, the

Recombinant DNA Advisory Committee, the FDA's role in drug approval, the funding of research and the national research prioritization process.

**BIFX 545 - Leadership Skills/Proj Mgmt in Life Sci | Credits 3.00**

Prerequisites: BIFX 501 or 502. Lab fee. Within the context of Bioinformatics – a cross-disciplinary field that uses computers, statistics, and mathematics to store, model and analyze biological data - the goal of the course is to enable translational, interdisciplinary scientists to understand the importance of leadership to the field and the team. Candidates will explore their own leadership style, consider leadership qualities necessary for a successful team, understand the interactions within a complex matrix environment in a Life Science organization and apply leadership and management skills to bioinformatics projects.

**MGMT 566 - Information Management & Technology | Credits 3.00**

Prerequisite: MGMT 551 or its equivalent. This course examines the role of information systems in organizations. Students explore the various ways in which information technology provides a competitive advantage to organizations. Managerial concerns related to the selection, evaluation and implementation of information systems are also examined.

**ITMG 533 - Managing Technical Project Teams | Credits 3.00**

Prerequisite: ITMG 527 or ITMG 516. This course investigates the process of managing a computer-related project. It includes scheduling techniques and automated tools such as scheduling packages. Focus will be on the team environment conducive to successful project completion.

- Note that the Pre-requisites for this course will be modified to include MGMT 566 as an option

**Program Requirements - Life Sciences Track:**

**MGMT 560 - Leadership & Organizational Behavior | Credits 3.00**

**MGMT 569 - Project Management | Credits 3.00**

**BMS 542 - Ethics in Science | Credits 3.00**

**BIFX 545 - Leadership Skills/Proj Mgmt in Life Sci | Credits 3.00**

**TOTAL CREDITS – 12.00**

**Program Requirements - IT Track:**

**MGMT 560 - Leadership & Organizational Behavior | Credits 3.00**

**MGMT 569 - Project Management | Credits 3.00**

**MGMT 566 - Information Management & Technology | Credits 3.00**

**ITMG 533 - Managing Technical Project Teams | Credits 3.00**

**TOTAL CREDITS – 12.00**

**V. Discuss how general education requirements will be met, if applicable.**

Not applicable.

**VI. Identify any specialized accreditation or graduate certification requirements for this program and its students.**

Not applicable.

**VII. If contracting with another institution or non-collegiate organization, provide a copy of the written contract.**

Not applicable.

**VIII. Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.**

As with all of Hood College's academic programs, information regarding curriculum, course and degree requirements will be available and updated in the College Catalog and will be published on the college website ([www.hood.edu](http://www.hood.edu)). Program information drafted for the College Catalog appears in question G.IV above.

In regards to the nature of faculty/student interactions, the current student/faculty ratio at Hood College is 10/1 (a goal of 14/1 is projected in the College's strategic plan). This ratio, as well as small class sizes, facilitates close interaction between faculty and students which further ensures personalized attention. Additionally, students are supported by faculty advisors in their chosen field which fosters formative interactions with students.

Information regarding Hood College's information technology capabilities and requirements is available at [www.hood.edu](http://www.hood.edu). Hood's learning management system is Blackboard and is accessible via username and password. Assessment of student learning is facilitated by Chalk and Wire. Individual instructors provide guidance regarding assignments, rubrics and evaluation requirements for Chalk and Wire.

Academic support services are available to all Hood College students—both undergraduate and graduate—through the Center for Academic Achievement and Retention (CAAR). Tutoring services in all disciplines and academic accommodations are also provided. Finally, Hood College's tuition and fees, as well as information regarding payment policies, is available at [www.hood.edu](http://www.hood.edu).

**IX. Provide assurance and any appropriate evidence that advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available.**

We have centralized admissions for all graduate programs through The Graduate at Hood College. As with all of our existing programs, the admission requirements and advertising/recruiting materials for the project management certificate will be regularly updated and available on our webpage. They are accessible to students located either locally or remotely—outside of the Frederick area and/or the state of Maryland. From inquiry and application to course enrollment and degree progress, all of the materials for our project management certificate will be available online at [www.hood.edu](http://www.hood.edu), as is the case with all of our graduate programs.

**H. Adequacy of Articulation**

**I. If applicable, discuss how the program supports articulation with programs at partner institutions. Provide all relevant articulation agreements.**

Not applicable.

**I. Adequacy of Faculty Resources** (as outlined in COMAR 13B.02.03.11).

The courses that are required for the project management certificate already exist across several successful programs including the ACBSP-accredited MBA program, M.S. in Management of Information Systems, and M.S. in Bioinformatics. As these courses are already staffed by experienced faculty, no additional resources are required by Hood College to offer the certificate. Below (Table III) is a brief list of faculty members across the college who are academically qualified to teach the courses described herein. Other faculty members hold similar credentials and expertise. We also expect the new Maryland E-innovation Endowed Chair to be able to teach across several of these courses.

**Table III - Academically Qualified Faculty**

<b>Course(s)</b>	<b>Faculty</b>	<b>Credentials</b>	<b>FT or Adjunct</b>
Project Management	Gurzick	Ph.D., M.S., PMP <sup>20</sup> .	FT
Information Management & Technology		Major Field: Information Systems	

---

<sup>20</sup> Project Management Professional awarded by the Project Management Institute (PMI) – “The PMP certification recognizes competence of an individual to perform in the role of a project manager, specifically experience in leading and directing projects.”

(<http://www.pmi.org/Certification/Project-Management-Professional-PMP.aspx>)



Managing Technical Project Teams			
Organizational Behavior	Jose	Ph.D., MBA, MMgmt Major Field: Strategy	FT
Foundations in Life Sciences  Leadership Skills and Project Management in the Life Sciences	Miranda Darby	Ph.D., B.A.  Major Field: Bioinformatics	FT

All faculty have access to a small research stipend to advance individual research in their field and access to a block of travel funds for attending and presenting new material at conferences. Faculty are also supported in pedagogical training through the Office of the Provost and the Center for Teaching and Learning. The mission of the latter is to “provide support and encouragement to explore, develop and refine teaching pedagogy to promote academic excellence, and it is committed to promoting teaching and learning as ongoing and collaborative processes of inquiry, experimentation and reflection.”

Further, the Center’s mission is to:

- Promote the value and practice of excellent teaching both in and out of the classroom to facilitate student learning and growth;
- Serve as an on-campus resource that provides professional development opportunities to promote teaching and learning;
- Provide opportunities for faculty to reflect on their work, share and learn from the experiences and expertise of their colleagues;
- Encourage faculty collaboration to enhance and refine their teaching;
- Promote active engagement and innovation in teaching and learning; and
- Act as a hub for knowledge of effective, evidence-based practices as well as a conduit to bring faculty together.”<sup>21</sup>

The advisory members of the Center for Teaching and Learning includes faculty and our full time instructional technologist who provides support for our learning management system – Blackboard, which is standard for all courses taught at Hood College.

**J. Adequacy of Library Resources** (as outlined in COMAR 13B.02.03.12).

The Beneficial-Hodson Library supports Hood College’s graduate and undergraduate programs in Economics and Business Administration in numerous ways. First, it is

---

<sup>21</sup> <https://www.hood.edu/academics/center-teaching-learning>

constantly adding to its collection of monographic, subject-specific materials, based upon the recommendations of departmental faculty. Last year, for example, expenditures for monographs for the Economics and Business Administration Department came to \$3,155. A keyword search for books on “Business” in the Beneficial-Hodson Library returns results for over 2200 print, electronic, and audio-visual titles. The same search, when not limited to Hood’s library, returns about 10,000 titles held in our entire library consortium, the Maryland Interlibrary Consortium, or MIC. A keyword search for “project management” returns over 800 results within the consortium.

We have access to the circulating monographic titles in all subject areas that belong to our partners in MIC, amounting to about 800,000 volumes. As a participant in MIC, the Beneficial-Hodson Library is able to obtain almost any book held by those partner libraries within 24 hours through our shared courier service. Interlibrary loan (ILL) is available as an alternative for materials not held within the Consortium, and our interlibrary loan manager is able to fill about 85% of all ILL requests.

We provide journal materials in both print and electronic formats. Our online “Journal Finder” lists our combined print and electronic holdings (including full-text and citation-only titles) and enables searching for specific journals by title or by subject. Searching the Journal Finder for the keyword “Business” returns 823 journal titles.

Among the 100-plus research databases that can be accessed through our website, there are 22 that are particularly useful to the researcher in business fields, including EBSCO’s *Business Source Premiere*, *The Conference Board*, *Dun and Bradstreet*, *Market Research Academic*, *Mergent Online*, EBSCO’s *Regional Business News*, and Standard and Poor’s *NetAdvantage*. It should be noted here that these and the other databases are available 24/7 from any internet-connected computer anywhere in the world, and with the right apps, from many hand-held devices.

In addition to the above-named resources, our reference librarians have produced a Research Guide, which is located at <http://hood.libguides.com/economics> , and is customized for the research needs of our business students. This guide provides links to sources of print materials, journal articles, websites, and more. Our reference librarians will, at the request of faculty, produce custom research guides targeted for individual courses or specific subject matter and disciplines.

Finally, we support our faculty by offering information literacy sessions (IL) that are tailored to individual course needs. Our reference librarians are available to consult with faculty to develop meaningful IL sessions, as well as approaches to constructing and addressing research projects. Students are always welcome to speak with a reference librarian when they’re in the library. They can make an appointment in the event that they want more in-depth counseling regarding library class assignments and library resources and services. The librarians can be contacted via phone, e-mail, an instant messaging service, and through the library’s Facebook page.

**K. Adequacy of Physical Facilities, Infrastructure and Instructional Equipment (as outlined in COMAR 13B.02.03.13)**

The current program will be taught using existing resources and standard classroom facilities. The network infrastructure at Hood College needed to run the courses in the project management certificate is more than adequate. The College has already established sufficient hardware and software capacity to support this program. A 21-station Linux-based mixed-use smart-classroom and laboratory offers the capability for both lectures and project work. A separate room in the computer science suite already hosts information technology infrastructure components such as routers, switches, workstations and a computer on wheels (COW) cart with several laptops and network switches that enables the creation of ad hoc portable computer networks.

The Hood College Virtual Computing Lab (VCL) is a cloud computing platform powered by the Apache Software Foundation's Virtual Computing Lab software. VCL provides students with specialized software, and enables students to conveniently access lab and classroom software remotely through a virtual environment at any time (24 hours per day, 7 days per week). Students can access VCL through their own Windows, Mac, iPad, iPhone, or Android devices. The VCL environments are not shared (i.e., one user to one machine), providing students with a safe and secure computing platform essential to the project management courses offered at Hood College.

**L. Adequacy of Financial Resources with Documentation** (as outlined in COMAR 13B.02.03.14)

**TABLE IV - Revenues**

REVENUES					
Resource Categories	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
1. Reallocated Funds	\$0	\$0	\$0	\$0	\$0
2. Tuition/Fee Revenue (d+g)					
a. Number of P/T Students	2	6	10	12	12
b. Annual Credit Hour Generation for 2e	18	72	90	108	108
c. Credit Hour Rate	\$625	\$644	\$663	\$683	\$703
d. Total P/T Revenue (f x g)	\$11,250	\$46,368	\$59,670	\$73,764	\$75,924
3. Grants, Contracts & Other Ext. Sources	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
4. Other Sources	\$0	\$0	\$0	\$0	\$0
<b>Total Revenues (Add 1-4)</b>	<b>\$111,250</b>	<b>\$146,368</b>	<b>\$159,670</b>	<b>\$173,764</b>	<b>\$175,924</b>

Line 2b: Assumes students will take 9 credits/year. It is not possible to enroll full-time in the certificate program, which would require 9 credits/semester.

Line 2c: Assumes 3% tuition increase per credit per year.

Line 3: Hood College recently received a \$1M E-nnovation award from the State of Maryland to establish an endowed chair in Project Management to be disbursed across FY2020-2029.

**TABLE V – Expenditures**

EXPENDITURES					
Expenditure Categories	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
1. Faculty (b + c)					
a. AC faculty member and program director	1	1	1	1	1
b. Total Salary (assume 3% salary increase)	\$75,000	\$77,250	\$80,000	\$82,400	\$85,000
c. Total Benefits (est. 30% of salary)	\$22,500	\$22,500	\$22,500	\$22,500	\$22,500
2. Equipment	\$0	\$0	\$0	\$0	\$0
3. Library	\$0	\$0	\$0	\$0	\$0
4. Software	\$0	\$0	\$0	\$0	\$0
5. Marketing	\$4,000	\$2,500	\$2,500	\$2,500	\$2,500
6. Professional development	\$5,000	\$7,000	\$7,000	\$4,000	\$3,000
7. Other Expenses	\$0	\$0	\$0	\$0	\$0
<b>Total Expenditures (Add 1-7)</b>	<b>\$106,500</b>	<b>\$109,250</b>	<b>\$112,000</b>	<b>\$111,400</b>	<b>\$113,000</b>
<b>Net Surplus/Deficit (Revenues-Expenditures)</b>	<b>\$4,750</b>	<b>\$37,118</b>	<b>\$47,670</b>	<b>\$62,364</b>	<b>\$62,924</b>

Line 1: Hood College recently received a \$1M E-nnovation award from the State of Maryland to establish an endowed chair in Project Management. This was a matched award from the State with Hood College providing an additional \$1M, which equates to \$20,000 per year (adjusted for inflation in subsequent years). This new position will oversee the curriculum and administration of the Project Management Certificate.

Line 5. Marketing expenses, outreach.

Line 6. Professional Development for faculty certification training, exam fees (e.g., PMP).

**M. Adequacy of Provisions for Evaluation of Program** (as outlined in COMAR 13B.02.03.15).

The two courses taken by all students in the certificate: (1) Leadership and Organizational Behavior and (2) Project Management are taught in the MBA program which is accredited by ACBSP. Every two-years, the Department needs to submit Quality Assurance Reports to ACBSP regarding student learning outcomes. In order to facilitate this process, Chalk and Wire, a portfolio management system, is used to track student performance with respect to the different course and program level student learning outcomes.

Beyond this, plans for certificate assessment will include both formative and summative assessment, using direct and indirect assessment strategies to ensure compliance and meeting of certificate objectives across all participating departments (School of Business, Department of Computer Science & Information Technology, and the Department of Biology). These include the following:

Procedures for evaluating courses:

- Direct assessment of program courses will include review of a course matrix or table that maps each class assignment to course objectives.
- Direct assessment of program courses also will include a review of grading rubrics with clear grading criteria for each assignment, so students may evaluate their own work (formative) before submitting that work for a summative assessment.
- Indirect assessment of courses will occur via course evaluations completed by students, and student interviews or questionnaires.

Procedures for evaluating student learning outcomes:

- Direct assessment will also occur using a sample of student exams/papers and projects with subsequent modification of course content, based on these reviews.
- Indirect assessment of student learning outcomes will occur via student surveys, course evaluations, and/or student interviews upon students' completion of the course and/or program.

Procedures for evaluating faculty:

- Direct assessment of program faculty will include a review of faculty credentials such as degrees, awards, years of professional experience, publications, conference presentations, course retention rates, grade distributions, and faculty rank.
- Direct assessment of program faculty also will include classroom observations of faculty to assess classroom climate, rapport of faculty with students, actual instructional strategies used, and student response to such instructional strategies.
- Indirect assessment of program faculty will be obtained through student surveys and course evaluations.

**N. Consistency with the State's Minority Student Achievement Goals** (as outlined in COMAR 13B.02.03.05).

Hood College is committed to enrolling a diverse student population. Through various offices within the divisions of academic and student life, the College provides services to promote understanding among all students. The Office of Multicultural Affairs and International Student Programs (OMA/ISP) provides programs for students and supports activities for African-American, Hispanic, Asian, Native American and international students and organizations such as the International Club, Black Student Union and La Comunidad. To meet the needs of the growing number of students from other countries, the director of OMA/ISP assists these students in making the adjustment to a new country and in achieving their educational objectives. Housing during Thanksgiving, winter and spring breaks is available at no cost for international students. Housing during summer is available on a priority basis at a nominal cost.<sup>22</sup>

**O. Relationship to Low Productivity Programs Identified by the Commission:**

This program is not directly related to an identified low productivity program.

**P. Adequacy of Distance Education Programs** (as outlined in COMAR 13B.02.03.22)

Not applicable.

---

<sup>22</sup> Taken from <http://hood.smartcatalogiq.com/2018-2019/Catalog/>

## Appendix I

# Frederick National Laboratory for Cancer Research

*sponsored by the National Cancer Institute*

April 4, 2019

James D. Fielder, Jr., Ph.D.  
Secretary, Maryland Higher Education Commission  
6 North Liberty Street, 10<sup>th</sup> Floor  
Baltimore, MD 21201

Dear Secretary Fielder,

As the president of Leidos Biomedical, Inc. here in Frederick, Maryland, I enthusiastically support Hood College's proposed post-baccalaureate certificate in project management with its two tracks in life sciences and information technology. As the federal contracting company that oversees the Frederick National Laboratory (FNL), we have a critical need for the skills outlined in Hood's proposed program.

Project management pervades much of what we do here at the FNL, and from our view, there is likely no other program in the state quite like it at Hood College. Specifically, Hood's Project Management certificate has been collaboratively developed by faculty and FNL representatives to serve the biotech industry in our region. For that, we value the leadership of Hood College's president, Dr. Andrea Chapdelaine, who has ensured that the College partners with local industry to meet regional workforce needs. The state has also acknowledged Hood's commitment to regional workforce development by granting the College a \$1M E-Nnovation grant from the Department of Commerce in support of this project management program.

The FNL recognizes the value this project management certificate would bring to the workforce in Frederick, the state of Maryland and beyond. We look forward to offering this program to our employees through our educational benefits, and we have appreciated the careful attention Hood College has given to the development of this timely program.

Sincerely,



Ethan Dmitrovsky, M.D.  
Director, Frederick National Laboratory for Cancer Research  
President, Leidos Biomedical Research, Inc.

## Appendix II

Comparison of Project Management Certificate Programs in Maryland, Northern Virginia, and Washington, DC.

	Hood College	Mount St. Mary's	UMUC	UMBC	Johns Hopkins	Towson University	Montgomery College	Georgetown University	George Mason University	George Washington Univ.	Morgan State
Credits	12	15/6 classes	15+0 or course	12	2-day non-certificate	15	Non-credit PDUs exam prep	6 classes 8 CEUs	Exam prep	12 credits 1 required course	15/5 classes
Time to Completion	10 months	10 months	12 months	1 year	2 days	1 year	122 class hrs	*2 wks to 2 yrs*	1 year	1 year	1 yr.
Cost	TBD	\$650/credit \$9,750	\$458/credit \$6,870	\$776/credit \$9,312	\$3,200	\$559/credit \$6,708	-\$2,844 w/exam prep	\$6,570 incl. materials	\$4,185	\$1,710/credit \$20,520	\$514.50/credit \$7,717.50
Format	Classroom w/online elements	Classroom	Online/hybrid	Classroom	Classroom	Hybrid/online	Hybrid	Hybrid	Classroom	TBD	Classroom
<b>Project Management</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Leadership and Organizational Behavior –or–</b>											
Project Leadership –or– Leadership Skills for Supervisors and Managers –or– Organization Management and Leadership	✓	✓					Elective			Elective	
<b>Information Management and Technology</b>	✓										
<b>Managing Technical Project Teams</b>	✓										
<b>Foundations in Life Sciences</b>	✓										
<b>Leadership Skills and Project Management in Life Sciences</b>	✓										
Production & Operations Management											
Supply Chain Management –or– Procurement and Sourcing						✓			✓		In combo 1
Strategy and Competitive Advantage											
Project Risk Management		✓	✓					Elective Elective	✓	Elective	In combo 1
Project Portfolios or Program and Portfolio Management		✓				✓					
Directed Study		✓									
Project Communications Management –or– Management Leadership and Communications			✓	✓		✓					
Project Quality Management			✓								
Quantitative Methods in Project Management –or– Mathematics and Statistics for Management			✓								In combo 1
PM Toolkit								✓		Elective	
Leading Project Teams –or– How to Build Effective, Dynamic Teams								✓			✓
Project Management in Real World or A Practical Approach to Project Management				✓				✓			
Product Management								Elective			
Negotiation/Conflict Management								Elective			
Certification Exam Prep Course							✓	Elective	✓		
Advanced Project Management Applications				✓				Elective			
Cost Accounting and Finance						✓					
Cost Estimation and Control											In combo 2
Planning and Scheduling											In combo 2
Executive Decision Making											
Proj. Integration and Scope Management											✓

In combo 1 = Procurement, Quality, Risk Mgmt. In combo 2 = Time and Cost Management