Proposal Information

Lead Developer: Robert A. Bunge *(Full-time Faculty)*

College: North Seattle College

Division: Workforce Instruction

Telephone: 2069344530

Dean: Laura H. Hopkins

Title Of Proposal: Ethical Hacking

Type of Proposal: New Course

◯ IS currently being taught within Seattle Colleges
◉ IS NOT currently being taught within Seattle Colleges

Individual/Group: Individual

Amount Requested: $ 3000.00

Project Description

Problem Need:
Describe the curriculum issue or need that you plan to address.
(15 pts.)

Recently the Technical Advisory Committee for the Information Technology program at NSC recommended a new course in Ethical Hacking. This course will join other courses already taught in a new short-term certificate program called Linux Networking & Security. The TAC envisions strong employer demand for students who complete this program. Likewise, a Seattle Colleges District employer panel on IT security has encouraged this type of program development. In general, it is widely recognized by workforce development educators and by industry advisers to workforce programs that a significant skills gap exists for the training of IT security specialists. The recent district-level DACAM on IT security gathered extensive local employer needs assessment data on this point and this proposal represents an action item that follows from our recent employer needs assessment conversations.

Project Need:
Explain why this curriculum project needs to be addressed amd how your proposal will impact, complement, connect, replace, or augment the existing curriculum.
Please be comprehensive, specific, and convincing.
(15 pts.)

The proposed IT 157 Ethical Hacking course and the proposed certificate in Linux Networking & Security address two important gaps in our current IT curriculum. First, our current Linux certificate program needs an update to improve student enrollment and completion rates. The IT TAC studied this problem over several sessions and having weighed a variety of options for a capstone-style Linux course, preferred this current option. Also, the district-level process in IT security curriculum has recommended that colleges develop IT security program options based on current degrees and certificates. By adding this one course, we will effectively strengthen both our Linux and our IT security programs. This dual purpose works for a single course, because the vast majority (over 95%) of the most widely used IT security tools are based on Linux. So having a capstone course that leverages students's prior work in both Linux and security and extends that work through an advanced practicum model provides an elegant solution to multiple needs.

Project Stategy and Plan:
Explain your strategy, approach, or plan to address the curriculum problem, issue, need or gap that you described above.

- How will you complete the project?
- What steps will you take?
- Who will you need to connect with?
- What is your proposed timeline?

My background in developing curriculum on this topic is extensive. I have taught similar courses in higher education for both public and private universities, at graduate and undergraduate levels, in both online and classroom environments. I have much pre-existing and pre-tested content that can be adapted for this development. Also, because the proposed course is designed to leverage common open source tools and platforms, materials cost is not a factor. This development project essentially is limited only by my time and effort. I have been and will continue to be advised by industry experts in IT security, including both NSC and district TACs.

The proposed course is targeted to launch in Winter 2018. The development timeline prior to then will include:

* course outline by June 2017
* complete list of labs, supplemental readings, and learning activities by September, 2017
* all quizzes, exams, discussion topics, syllabus, and lab activities with step-by-step instructions by December, 2017
* all deliverables to the grant committee by Winter 2018 deadline

The course development will take place in a Canvas shell and the grant committee will have full access to this shell.

Project Assessment:
Discuss how your new curriculum might be assessed for effectiveness..
How will you know that the new curriculum is successful?
(15 pts.)

Student assessment for the proposed course will include tests and quizzes for knowledge items. However, the bulk of the student assessment will involve hands-on projects in which students demonstrate technical skills with a variety of tools, products, and platforms. The typical student skills demonstration includes an initial project specification, a lab diagram, a list of equipment and materials, a step by step outline of project activities, and screen shots or videos of how the student's actions impact the targeted systems. At least once per quarter, students will make a formal presentation of such a lab project to other students and/or faculty and industry observers.

Success of the overall project will be seen through the following measures:

* course launches on schedule in Jan. 2018
* all major curriculum elements in place prior to launch
* students succeed in creating lab projects and project documentation
* TAC and other observers validate student performance
* employment outcomes are good for students completing the program

Historically, my courses like this have generated these type of outcomes, so I am confident we can replicate that at NSC.

Deliverables:
List and briefly describe the deliverable products you will create using quantifiable and measurable terms (how many? what kind?).
Some examples may include artifacts such as a syllabus, course outline, assignments, grading rubrics, discussion prompts, lecture notes, PowerPoint presentations, bibliographies, lesson plans, or reading lists.
All deliverables listed must be submitted to receive compensation.
(20 pts.)

List of project deliverables:

* Syllabus including course outline and schedule
* 10 unit quizzes developed in Canvas
* final exam developed in Canvas
* 10 discussion topics in Canvas
* 5 demonstrations of tools and technologies. These will include as a minimum print documents, network diagrams, and screen shots. Video demonstrations are an option, but this project does not include video in its budget request.
* Canvas-based lecture notes for each of the 10 units
* Step-by-step framework document for students to design and deliver their own lab skills demonstrations
* list of supplemental readings and reference links in Canvas

Budget

Hours / Budget:
List the estimated number of hours (at the rate of $35/hour) you will need to complete the product.
As possible, list the hours for each product created.

No more than 15% of your budget may be used for background reading/research.
Grant funds may not be used for equipment, travel, or training.
   (20 pts.)

   Budget Detail

   Sylllabus - 1 @ 2 hours - $70
   Unit quizzes - 10 @ 2 hours each - $700
   Final exam - 1 @ 5 hours - $175
   Discussion topics - 10 @ 1 hour for all - $35
   Tools demos - 5 @ 5 hours each - $875
   Unit lecture notes - 10 @ 3 hours each - $1050
   Student project framework - 1 @ 1 hour - $35
   Supplemental readings and links - 1 page @ 1 hour - $35

   Total budget - $2975

Other Funds:
List any funds from other source(s) and indicate if funds have been received or are pending.
Examples of other funding sources are: division, college or external grants.

   The project as specified does not require any additional funding. However, we will be happy to incorporate any external resources (such as donations or Perkins funds) to upgrade the tool and platform options available to students.

Total Funds:
Provide total amount of curriculum grant funds requested to complete project.
If applicable, indicate how the budget will be split among participating faculty

   As specified in the Budget section above, the total request for this development is $2975.

Additional Comments

Include any supporting materials for consideration.

Supporting Documentation

No supporting documents submitted

Unit Administrator Approval

I fully support this project!

> I have read the attached proposal and consider it to be consistent with the goals of this administrative unit. If the project is successfully completed, there is a high likelihood that its products will be in our curriculum.
> Dean: Laura H. Hopkins
> Approval Date: Tuesday, April 25, 2017

VP For Instruction Approval

I support this proposal.

I have reviewed the attached proposal and consider it to be consistent with the mission and goals of this college.
VP: Peter H. Lortz
Approval Date: Wednesday, April 26, 2017