



Section 2: Programming

Programming Services

Programming services include, but are not limited to, systems analysis, design, programming, implementation, and selected training.

The Director of Information Systems supervises the programming staff. In the absence of a Director these duties will be performed by the CIO or his/her designee.

Request for Programming Services

Requests to Information Systems for programming services fall under four categories - new functionality or reports, changes to existing programs, base system modifications and data change requests. A request for programming services will normally be initiated by the user and must be in writing.

Service requests should be made online at the support.nsula.edu website or by written memorandum addressed to Information Systems. When making a service request the user should provide following information:

- Name, telephone #, and e-mail address of the person to whom questions and/or output should be directed.
- Requested completion date. (IS will attempt to accommodate user requested dates but this will depend upon existing staffing and outstanding requests at the time of submission.)
- Description of the request.
- For access to or release of sensitive information the signature of the System Manager or his/her designee is required. The primary System Managers are as shown in Table 1-1.

Service Requests received by Information Systems are entered into an online tracking system. A copy of the service request will be emailed to the submitting user. Users will receive updates on the status of the request automatically via email as changes occur.

Review of Programming Requests

Service Requests

All requests for programming services (Service Requests) will be entered into the on-line tracking system and reviewed by the Director of Information Systems or designee who will assign the request to the appropriate programming personnel. The request will be

prioritized and the user notified if a change in the requested completion date is necessary. In most cases a "first in first out" approach will be taken.

Data requests that include providing the Social Security numbers for employees must be approved by the Director of Human Resources. Data requests that include providing the Social Security numbers for students must be approved by the Registrar. The exception is that the Director of Financial Aid and the Bursar may request reports that include student Social Security numbers without prior approval of the Registrar.

The following applies to the processing of service requests:

- The Director of Information Systems or his/her designee will be in charge of assigning requests.
- When completed, the programmer will set the status of the service request to 'Final Review' and return it to the Director who will review and mark it as completed.
- It is the responsibility of the Director to review the service request to ensure proper authorization of the requester before assigning the program task to a programmer.
- It is the responsibility of the programmer to review the service request to ensure it contains all information needed to complete the request and that the request is unambiguous. If the service request is incomplete or ambiguous the programmer may either work with the requestor to obtain the needed clarification or return the request to the requestor for additional information and clarity.

Base Program Modifications

Installing, modifying, or upgrading a commercial-off-the-shelf (COTS) data system requires significant on-going expenditure of resources (people, computer time, etc.). It is critical, therefore, that such modifications have direct approval of the Chief Information Officer. Under no circumstances should a programmer or any university personnel install or in any way modify a base program without the written approval of the CIO. This does not preclude routine configuration changes necessary for proper operation of a system in a given environment.

Standing policy is not to modify the Banner ERP software or other COTS software packages of fundamental or base operational programs. Modification of such programming has the potential to destabilize the base-programming module and threaten the integrity of its functionality. There may be, however, in rare instances, a time when a modification is necessary in order to automate a unique function within the university. A base program cannot be modified or installed without the approval of an ad hoc review committee convened by the CIO. The committee may include the Director of Information Systems or designee, a representative from the area requesting the modification, system security interests, programming staff, a representative of the software vendor, and representative from other universities or organizations that are familiar with the affected software and/or associated function, and any other individuals who may be familiar with or affected by the action. Please note, modifications will not be made to any system that was installed or modified without the approval of the Office of Information Systems.

Requests for modifications should be made to the CIO well in advance in writing.

Programming Assignments

Under no circumstances will a programmer take on a program or project unless it has been approved and assigned by the Director of Information Systems. Only requests entered on a work request form will be considered. The programming staff will not accept E-mail, telephone, or verbal requests.

Programmers may be given individual assignments or assigned to a team to complete a project.

Program Testing

The goals of testing are to eliminate errors from applications before they are put into production; to ensure proper extraction of data; to begin user training and check documentation; to ensure that all interfaces disburse and receive data properly; to check associated processes and report generation; and where applicable, to document resource utilization.

All new processing or base programs or programs that have been modified must be tested before being placed into production.

Testing of new or modified programs which perform updates to the system will be accomplished only on the test system. There may be some recognized situations that it is necessary to test the results of read-only reports against production data to ensure their validity.

Programs, upgrades, or modifications will not be placed into production until they have been tested and signed off on by the Director or CIO. Where appropriate, the requester may also be asked to sign off on the program based on the test results. Base program modifications, installation, or upgrades require the approval of the CIO before they are placed into production.

Once the program is placed into the production mode it may only be modified by request of the user. Submission of a service request is required for all program modifications.

Procedure for Moving Programs into Production

Program Completion

Upon completion of the program the programmer will change the status of the service request to 'Testing' and make the program/output available to the user on the test system.

User Testing

After completing development or modification of the program on the test system, the requestor will be asked to test the program and/or review the output of the program on the test system. When the requestor is satisfied that the program is functioning correctly, the programmer will change the status of the service request to 'Final Review' to indicate that the "program has been approved for production". This approval may be submitted by e-mail provided that the programmer attaches a copy of the e-mail to the service request.

Moving to Production

Following approval by the requestor and completion of the final review, the programmer may request that the DBA move the content to production. In the case of ARGOS reports the programmer may change the data source to be production. By moving the program into production, the programmer certifies that he/she has reviewed the program from a quality assurance perspective and that the program is suitable for being placed into production.

Banner Patches and Updates

Banner patches and updates are not considered to be base modifications to existing programs.

Updates are loaded by the Banner Database Administrator and documented by load date and description.

Updates and patches will be tested and approved by the appropriate System Managers on the test system prior to implementation. Written authorization from the functional areas impacted by the updates is required prior to the move to production.

Patches and updates on systems that have formal modifications for which the university carries maintenance with Ellucian must be reviewed and authorized by Ellucian before they are installed. In many cases these will require updates from Ellucian. By contract, the university may request updates and patches be certified against our mods twice annually. Therefore, these must be carefully planned and coordinated. Requests for review are submitted to the Ellucian Action Line by the CIO or his/her designee.