

Owens Community College

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Automation of Course Inventory Process



Table of Contents

Team Members.....	3
Project Background.....	4
Project Statement.....	8
Operational Definitions.....	9
Current Process Flow Chart.....	10
Proposed Process Flow Chart.....	12
Proposed Form.....	13
Improvement Theory and Implementation Plan.....	14
Proposed System Benefits.....	16
Impact on Current Operations.....	17
Cost Estimate.....	18
Problems and Obstacles.....	19

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Project Background

In November 2003, the Automating Course Inventory Task Force set forth to accomplish the following:

- Map the current process for course inventory
- Design an ideal process
- Determine what can be done with Banner and other programming to facilitate the process
- Build awareness/understanding in deans, chairs, and others who feed information into this process how their role has an impact on the overall process

In May 2004, the Automating Course Inventory Task Force determined that Banner access should be opened to allow entry of class data directly by the deans and chairs, who are responsible for the data. To date, deans and chairs may enter Class Schedule data directly into Banner.

A concern raised in 2004 was what will happen during a Banner upgrade (to Banner 7) to new tables and code? Consensus was that rewriting the programs now would be premature because of expected changes in the upgrade.

In August 2004, the Automating Course Inventory Task Force designed an automated course inventory form to reside on the Intranet website. This is a fill-in type form with very little smart logic.

Evolution of The “Blue Sheet”

The Blue Sheet is the form that is used to add a class section to the master schedule. In 1999, these sheets were managed by the Provost’s Office. The chair initiated the sheet and forwarded it to the dean to be approved. The form was then submitted by the dean to the provost for final approval. The Provost’s Office would then forward these sheets to the Records Office for data entry into Banner.

In early 2001, this process was changed to all “blue sheets” coming directly to the Records Office for data entry. The exception was (is) that all class offerings in the flex part of term must go to the provost for a signature prior to being entered into the class schedule.

In June 2005, Banner access was granted that allowed the chairs to enter data directly into Banner without blue sheets. There were deadlines established to ensure other processes could be run, i.e. room scheduling. Training classes were set up and all chairs were trained on how to enter their own classes into the schedule. In most instances the deadline for data entry by the chairs is the first day of registration for a particular term. Once students have the ability to register the chairs must submit all additions/changes to our offices for entry as this could greatly affect a student’s registration. All class cancellations are still done by the Office of Registrar as they notify the students that their class is cancelled and actually have to touch the student’s registration.

The Green Sheet-Course Inventory form

The Green Sheet is used to change existing courses in the inventory, end courses in the inventory, and add new courses into the inventory. These forms flow from the chair who would make the add/change based on input from faculty members.

The process defined by the Curriculum Committee has the form being submitted to the Associate Dean of Academic Services (ADAS) along with a Curriculum Committee Cover Sheet and Course syllabus. Other forms are required by the committee based on whether the course is part of a new program, etc. Once the ADAS reviews the paperwork he/she forwards it to the Curriculum committee for discussion and approval. Once approved, the form is signed by the Provost and sent to the Office of the Registrar for data entry.

This form has many entry points into banner. First, the course must be entered into the inventory. Then the detail information funding codes, lab fees and description are entered. If there are pre or co-requisites they are then entered at the course level. If the course has restricted registration (i.e. NRS classes are restricted to NRSP majors), this is coded at the course level.

Transfer Assurance Guides (TAG)

In 2004, policy revisions were recommended by the Articulation and Transfer Advisory Council and further codified by the Ohio General Assembly. House Bill 95 extended the impact of the existing policy through more precise advising and the assurance of credit transfer and the application of credits to academic degree/program requirements. A central feature of the enhanced policy is the development of Transfer Assurance Guides (TAG). TAGs are being developed to assist students in more than 38 different degree pathways and are guided by the following principles. The purpose of the TAG is to allow students to transfer, in a simple and direct manner, a core of courses that will count toward the major program. TAGs are groups of foundational courses that represent a commonly accepted pathway to majors within the Bachelor's degree. The goal of a TAG is to recognize comparable, compatible and equivalent courses at or above the 70% standard of equivalency adopted by the Articulation and Transfer Advisory Council. TAGs apply across, at least, all public higher education institutions in Ohio and embody commonly accepted pathways to majors within the Bachelor's degree. Students are assured not only of the equivalency of the courses, but of their application to the degree objective. The role of faculty in the development of the TAGs is paramount. All campuses are expected to comply with the revised Articulation and Transfer Policy and guarantee the transfer of courses in the TAG for application to degree/program requirements. The existing Articulation and Transfer Policy is significantly enhanced by the development of the Transfer Assurance Guides.

In October 2005, the Information Process Team proposed that the Master syllabus be in electronic MS Word format and entered into SCASYLB area in Banner. Another Page would be added to the Course Inventory Form to collect the Ohio Articulation Numbers and Ohio Transfer Module information for TAGS.

Ohio Articulation Number (AN) File

Report the freshman and sophomore level courses that are matched to an Ohio Articulation Number (OAN) as part of the Ohio Transfer Assurance Guide (TAG) process. Courses to be included in this reporting should encompass those courses active in your catalog for a given term regardless of whether the courses were actually offered. A complete list of OAN's for each TAG may be found within the Ohio Articulation Number (OAN) Verification Table. Submission of these course equivalencies conforms with HB 95.

The OAN courses are based upon semester hours. This should be considered for the assignment of an institution's quarter hour courses to OANs. For example, if two quarter hour courses are equivalent to an OAN, they should be reported in the same record line.

Submission Schedule

First Year Data Collection

- Autumn 2005 Term Edit Window – June 1 through August 31
- Winter 2006, Spring 2006, Summer 2006 Term Edit Windows – June 1 through December 31

Regular Data Collection Windows

- Autumn Term Edit Window – May 1 through July 1
- Winter and Spring Term Edit Windows – May 1 through August 31
- Summer Term Edit Window – May 1 through December 31

As a term's edit window closes, data from all campuses will be available via the Ohio Articulation Number and Ohio Transfer Module queries.

Relationship to Other File Submissions

The HEI Course Identifiers reported in the AN file should correspond to the Course Identifiers already reported in the Course Inventory (CI) file submission with the exception of new HEI Course Identifiers which will be reported in the CI for the first time a term after they are initially reported in the AN.

Ohio Transfer Module (TM) File

The Ohio Transfer Module (TM) file contains institution course identifiers of Ohio Transfer Module courses. Report the courses that are part of the Ohio Transfer Module courses approved by the Ohio Board of Regents. Courses to be included in this reporting should encompass those courses active in your catalog for a given term regardless of whether the courses were actually offered. Submission of these OTM course identifiers conforms to HB 95.

Submission Schedule

Starting on May 1 of each year, institutions may submit an entire academic years worth of data within the appropriate submission windows. The year and term of the courses' applicability to the Ohio Transfer Module (OTM) will be taken from the header record.

First Year Data Collection

- Autumn 2005 Term Edit Window – June 1 through August 31
- Winter 2006, Spring 2006, Summer 2006 Term Edit Windows – June 1 through December 31

Regular Data Collection Windows

- Autumn Term Edit Window – May 1 through July 1
- Winter and Spring Term Edit Windows – May 1 through August 31
- Summer Term Edit Window – May 1 through December 31

As a term's edit window closes, data from all campuses will be available via the Ohio Articulation Number and Ohio Transfer Module queries.

Relationship to Other File Submissions

The HEI Course Identifiers reported in the TM file should correspond to the Course Identifiers already reported in the Course Inventory (CI) file submission with the exception of new HEI Course Identifiers which will be reported in the CI for the first time a term after they are initially reported in the TM.

Project Statement

To improve academic information processing as measured by improved accuracy, cost savings and time savings (usage).

Operational Definitions

Course Inventory Management: coordination and management of the inventory of courses, which include course creation, change, and deletion.

E-signature: electronic authentication of identity.

Electronic Submission: electronic method of moving data from its entry point to the Banner Information System.

Time Savings: minimize rework time, duplication, CRN entry, delay and delivery reporting.

Accuracy: initial input of data that complies with state and institutional standards.

Master Syllabus: a syllabus that covers all aspects of what will be taught and presented in the class.

Transfer Assurance Guide (TAG): specific pathways, of pre-major and major courses that are guaranteed for transfer and application to degree requirements amongst Ohio's colleges and universities.

Articulation Number (AN file): Ohio Articulation Number (OAN) as part of the Ohio Transfer Assurance Guide (TAG) process.

Transfer Module (TM file): Ohio Transfer Module file that contains institution course identifiers of Ohio Transfer Module courses. Institutions assign these numbers with the state reviewing them periodically.

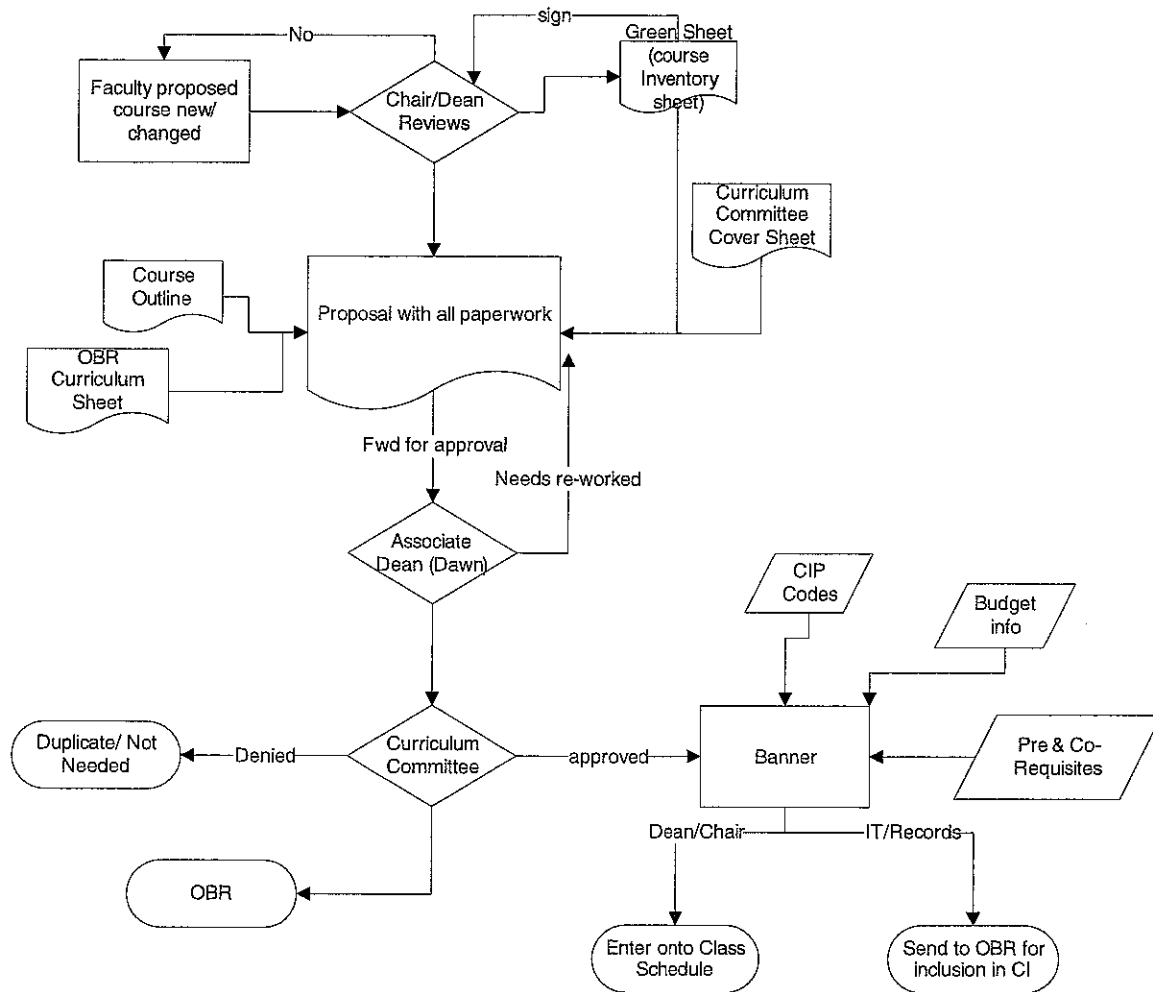
OBR Curriculum worksheet: a form that provides a summary and classification of the courses comprising a program by semester, assuming full-time student. It is here that new courses are slotted into a student's schedule.

Inventory of Course form (a.k.a. green sheet): a worksheet with all of the required elements needed to build a course.

Sample Class Schedule: a topical course outline for the proposed course that shows what the weekly assignments/learning outcomes will be.

Curriculum Committee: a committee that reviews all newly proposed/amended classes to be offered for instruction at Owens.

Current Process Flow Chart



Currently

Course is created by faculty

Makes proposal to chair/dean → If they OK, proposal is written with following paperwork.

Curriculum Committee Cover Sheet

Course Outline

OBR Curriculum Sheet

Green Course Inventory Sheet

a. Must be completely filled out

b. Signed by chair and/or dean

All paperwork forwarded ADAS in President's office.

If ADAS requires no further information, the paperwork is forwarded to the Curriculum Committee for review and discussion of need for the course. The Committee verifies that the proposed course is not a duplicate of an existing course or that a program is using a course that is to be deleted. Committee then votes for approval/denial etc.

Once the proposal passes the Committee, it is forwarded to the Records Office for data entry. Data is input regarding course Ciptcode Information, Budget Information, and Pre and Co-requisites.

Once a course is entered into the inventory, a class can be entered into the class schedule by the chair or dean.

Current Time Involvement Data

The ADAS receives approximately 175 green sheets annually of which 70% are returned for correction or completion. This exchange may occur more than once. So in terms of time we have the following scenario:

Interoffice mail from chair/dean to ADAS - 1 to 2 days

Assessment by whether form is complete and correct - 10 minutes

For those incomplete or incorrect, the form goes back into interoffice mail to the chair/dean - 1 to 2 days

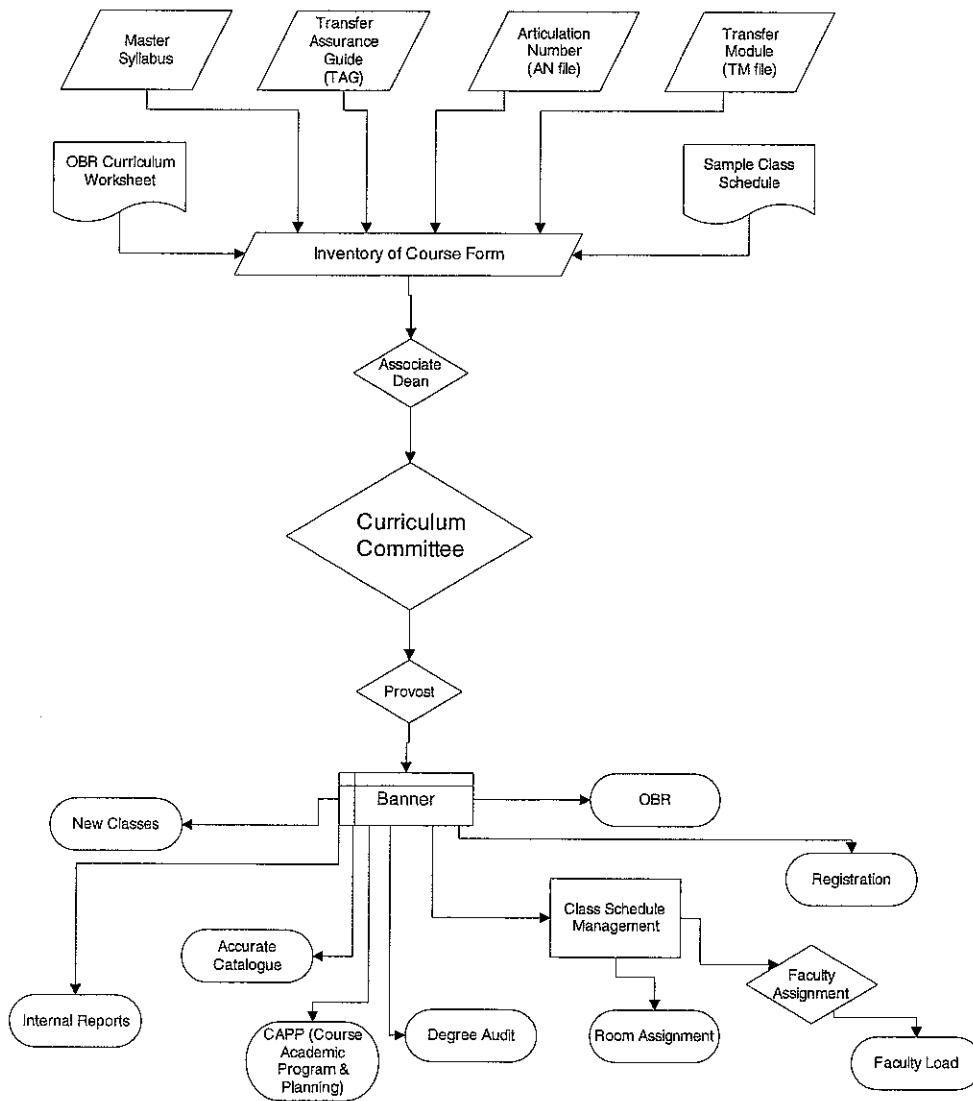
Chair/dean corrects form - 30 minutes

Interoffice mail from chair/dean back to ADAS- 1 to 2 days

Assessment by ADAS whether form is complete and correct - if OK, ADAS forwards to provost for signature - 1 day

Estimated time 3 to 6 days assuming that the form doesn't sit on someone's desk.

Proposed Process Flow Chart



1. Master syllabus would be in electronic MS Word format to be entered into SCASYLB area in Banner.
2. Another Page would be added to the Course inventory form to collect the AN and TM information for TAGS.

Proposed Form

Inventory of Course Form										Term Effective: <input type="text"/>	Thursday August 5 th 2004
Function <input type="radio"/> End of Course <input type="radio"/> New Course Addition <input type="radio"/> Change of Existing Course		Campus <input type="checkbox"/> Toledo <input type="checkbox"/> Findlay		SUB	Crs#	Course Title (30 char max)	DIV	DEPT	CIP Code	Credit Hours	Lab Sep?
				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
LEC	LAB	OTH	Repeat Times	Grade Mode	Schd Code	Equivalent Course	Lab Fee Amount	Degree Attributes	Element 1: (9) Funding Code <input type="text"/>		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Element 2: Registrar Responsible for <input type="text"/>		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Element 3: Registrar Responsible for <input type="text"/>		
Course Description <div style="border: 1px solid black; height: 40px; width: 100%;"></div>											
Programs Using this Course:											
Req'd	Elective	Program Title	Co-req Course		Semester(s) Offered	Catalog Description					
<input type="radio"/>	<input type="radio"/>	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>					
<input type="radio"/>	<input type="radio"/>	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>					
<input type="radio"/>	<input type="radio"/>	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>					
<input type="radio"/>	<input type="radio"/>	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>					
			Pre-req Course		Type of Change:						
			<input type="text"/>		<input type="text"/>						
							Submit	Clear Form			

Improvement Theory and Implementation Plan

The Automation of Inventory Course Process Team believes the college needs to implement the Green Sheet project to move the current manual operations of academic information processing to an automated system, thereby improving accuracy as well as saving time and money.

Recommendations for Implementation

The timeline for this implementation plan is shown in the accompanying Gantt charts I and II.

Implementation Plan Phase 1

Phase I (see Gantt Chart – Phase I below) of the Green Sheet project, creation of new courses in the college catalog, will be the usage of the email system “GroupWise.” GroupWise has the functionality called “Routing” which allows the originator to create a specific set of email addresses and order the email for specific routing approval. The email will stop unless the individuals approve the email for further Routing.

In Phase I, the data will be closely watched for any errors or inconsistencies that will be used as logic in a later computer program to minimize errors and allow entry of the data directly into Banner in Phase II.

Gantt Chart – Phase I

What - Activity	Who	Jan 2006	Feb 2006	Mar 2006	Apr 2006	May 2006	June 2006	July 2006	Aug 2006
The green sheet program currently in use will be enhanced and routed via groupwise routing slip function to Assistant Registrar	Deans & Chairs								
Manually enter green sheet into Banner	Assistant Registrar								
Academic Svs. Computer Analyst developer training	Training outsourced								
Program a report that identifies potential errors in the green sheet	Academic Svs. Computer Analyst								
Update on Progress	Team								

Implementation Plan Phase II

Phase II (see Gantt Chart – Phase II below) will begin with the writing of a program to eliminate errors that were found in Phase 1. A report will be generated along with the actual data for the Assistant Registrar to enter the data into Banner. After enough data has

Proposed System Benefits

- Enhance the quality of the course catalog and the class schedule.
- Shorten the process from beginning to end.
- Improve the integrity of the data.
- Tie instructors to class sections sooner.
- Ensure the decision-makers and end-users have the knowledge they need to work smarter and faster.
- Eliminate human error with electronic validation.

Impact on Current Operations

- Expedites course inventory changes
- Minimizes data entry errors
- Eliminates re-work resulting in time savings
- Reduces process flow from nearly a week to minutes
- Increases efficiency

Cost Estimate

Implementation Costs

The implementation of the Green Sheet project's initial cost will vary depending on what can be accomplished in house, but any cost will be compensated for ultimately by the project's gains in time, accuracy, and cost savings.

Estimated Effort Hours:

Developer Training:	40 hrs
Analysis and Design:	16 hrs
Application development:	80 hrs
Testing the application:	24 hrs
Application Implementation:	16 hrs
User training:	12 hrs
Administrative task:	08 hrs

Estimated Cost:

Developer Training:	
Registration/Lodging/Meal/Travel	= \$4,000
Analysis and Design:	16 hrs @ \$100 = \$1,600
Application development:	80 hrs @ \$100 = \$8,000
Testing the application:	24 hrs @ \$100 = \$2,400
Application Implementation:	16 hrs @ \$100 = \$1,600
User training:	12 hrs @ \$100 = \$1,200
Administrative task:	08 hrs @ \$100 = \$8,000
Software:	= \$2,000
<u>Hardware additional cost:</u>	<u>= \$1,500</u>
Total	\$30,300

Estimated Duration:

Administrative task:	1 wk
Developer Training:	1 wk
Analysis and Design:	2 wks
Application development:	2 wks
Testing:	2 wks
Implementation:	2 wks
<u>User training:</u>	<u>2 wks</u>
Total	12 wks

Estimated Number of Personnel:

Administrator:	1
Analyst:	1
Developer:	1
Tester:	3
System Admin:	1
DBA:	1
Trainer:	1
Trainee:	-

Problems and Obstacles

Competing priorities for persons involved

Hardware and software issues

Training for: Developer (Computer Analyst, Academic Services), GroupWise routing slip users, re-designed program users, Banner 7 users

Estimated cost of Developer training

Problem with Banner 7 upgrade