



UC SANTA CRUZ

Project Charter

Project Name: Campus CLP
Information Technology Services

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1 Project Background

1.1. Problem/Opportunity Description

Campus Curriculum and Leave Planning (Campus CLP) is used by department managers and curriculum analysts to plan their department's curriculum for the next academic year. This planning information flows from the Campus CLP into the campus Academic Information System (AIS) to support course scheduling and student enrollment on a quarterly basis. There is a need to have a campus system to support the planning efforts associated with the business processes of annual curriculum planning and quarterly scheduling.

Presently there are five related but unconnected FileMaker Pro CLP systems, one for each academic division, that are used for the purposes of annual planning and for scheduling curriculum, facilities, and instructors to deliver the curriculum. The colleges currently do not use the FileMaker Pro CLP. With the present systems, there is little support for sharing of planned curriculum across divisions or for planning interdisciplinary programs.

While these CLP applications have met many departmental and divisional needs, they do not integrate well with key campus enterprise systems such as Academic Information System (AIS), Academic Personnel Office's DivData, and Payroll and Personnel System (PPS). The lack of integration with these enterprise systems leads to duplicate data entry, inefficiencies and inconsistencies between the CLP and the enterprise systems. Improved communication between these systems would improve the quality of information in both the CLP and in AIS while reducing workload for the academic departments as well as for central units. Time spent on data corrections would be reduced to support official institutional reporting.

The current CLP features are used inconsistently across the academic departments. The business processes vary significantly as well. An opportunity exists to improve business processes by developing a consistent approach to support the annual planning and quarterly scheduling processes. For a more consistent approach to be successful, the new processes must reduce workload, increase accuracy and be adaptable to changes in enrollment planning processes.

An integrated Campus Curriculum Leave and Planning system would support the planning and reporting requirements for academic departments, divisions, colleges, interdisciplinary programs and for the entire campus. Campus curriculum capacity assessment is a critical component of enrollment management. Specific information must be available to all planning units to facilitate the integration of these data into the curricular decision making process. Comprehensive curriculum management will improve student progress; contributes to better retention and graduation rates; and has direct impact on increasing educational effectiveness.

Academic leadership is essential to ensure project priorities are driven by academic needs. Consistent with this overarching principle, Campus CLP will provide course

sponsoring agencies a uniform ability to consistently manage faculty curriculum and leave, preserving the functionality of the existing CLP.

1.2. Benefits

A campus curriculum and leave planning system will benefit stakeholders across the entire university by providing cost savings through more efficient business processes, improved data accuracy, improved analytical reporting, and leveraging other campus systems by integrating information to support business processes that span multiple systems.

The Campus CLP will enable all course sponsoring agencies (departments, divisions, and colleges) to use the same application to support their curriculum planning activities. This effort will stabilize and standardize management tools for departmental curricular planning, temporary academic staffing management, and faculty workload reporting. Departments utilizing common tools supports cross-training. By having one centralized application, there are many opportunities available that are not possible (or easily accomplished) with the existing five separate FileMaker Pro CLP applications.

The Campus CLP will provide several strategic enhancements to curriculum planning:

- Improved analysis of the various “student streams” to assist curriculum planning and scheduling that ensures that we offer the appropriate courses (with the right capacity) to enable students to achieve their degrees in a timely manner.
- Central campus view of actual versus projected enrollments, allowing the possibility of interceding in specific potential bottlenecks prior to student enrollment in AIS.

ITS staff will be able to more effectively manage the Campus CLP application as the application code is separate from the database. Opportunities exist for making inconsistent changes to the application code of the individual CLP versions. FileMaker Pro does not provide effective change management by supporting version control.

1.3. Goals

The overarching goals of this project are to implement a system to enable efficient, effective curriculum planning processes and to provide comprehensive information in support of departmental, divisional, and campus-wide curriculum management.

The specific businesses processes that will be implemented through this charter include annual academic planning and quarterly scheduling. Processes that will be implemented in subsequent phases include a system to support an automated course approval/revision business process and integration with SCiiPi, the Santa Cruz Institutional Instruction Planning Information system. The improved business process for course approval/revision has been developed and documented. SCiiPi captures (from AIS) the actual courses offered and associated enrollments, faculty, teaching assistants, and building and room information at third week; it provides the

results associated with the curriculum planning efforts. Business processes associated with SCiiPi were not examined in detail because the project scope was becoming too large to be effectively managed in less than 24 months.

This project will implement a system in alignment with the following campus goals:

- Provide department managers, department chairs and deans with a uniform ability to consistently manage faculty curriculum and leave, preserving the functionality of the existing FileMaker Pro CLP.
- Provide information to manage curriculum capacity planning in support of students' degree objectives.
- Have the ability to manage support for GenEd courses associated with the above degree objectives at the campus level.

1.4. Stakeholders and Clients

Stakeholders of the Campus CLP project are Vice Provost of Academic Affairs, Vice Provost Dean of Undergraduate Education, Academic Departments, Academic Senate, Academic Divisions, School of Engineering, Colleges, ITS Divisional Liaisons, Office of the Registrar, Office of Planning and Budget, Academic Personnel Office, ITS Departmental Applications and Web Services, ITS AIS, and Faculty and Student populations. Clients are Academic Department Managers and faculty.

2 Project Scope

2.1. Objectives

As part of the Systems Analysis, these major business processes were examined:

- Course Approval/Revision
- Annual Curriculum and Leave Planning
- Quarterly Scheduling supporting two-way communication between CLP and AIS
- Enhanced CLP Reporting
- Integrated CLP SCiiPi Processes

The steering committee agreed to the following phases, implementing improved core CLP processes as the highest priority:

- Phase I: Annual Planning, Quarterly Scheduling and Enhanced Reporting
- Phase II: Automated Course Approval/Revision process
- Phase III: Integrated CLP SCiiPi processes

Phase I replicates and improves the business processes associated with the current core CLP FileMaker applications. The objectives for Campus CLP phase 1 include:

- Conversion of key elements of current CLP in standardized form to support the new Campus CLP starting with academic year 07-08. Assign subcommittee to support this effort. The committee's charge is to determine which historical data elements of the current CLP will be included in the Campus CLP.
- Implement standardized annual curriculum planning processes. This includes developing CLP-based faculty leave workload equivalency descriptions and providing comments to capture individualized department needs.
- In collaboration with the Office of the Registrar, implement standardized quarterly scheduling processes. This includes the assignment of faculty instructors, teaching assistants and course assistants, as well as scheduling courses into classrooms with compatible instructional feature-sets. Individual studies courses with enrollment will flow from AIS to CLP. Changes will be made to AIS' process "prior term copy" to copy only individual studies courses; instead, AIS will accept validated scheduling requests from CLP.
- Implement interfaces to leverage campus enterprise system to support the above core business processes. Information will be maintained about courses (approvals/revisions) by leveraging frequent one-way communication from AIS to CLP. Information will be maintained about faculty by leveraging and integrating information from DivData and PPS. Information about teaching and course assistants will be maintained by leveraging information from PPS. Timely two-way communication between AIS and CLP will be developed to support quarterly scheduling of courses into classrooms supporting schedule requests as well as last minute changes.

- Implement a user interface and framework to provide a high degree of usability for end users of the system.
- Conduct pilot project for annual planning to confirm usability in Spring 09.
- Provide standardized reporting to support reporting at all levels of the campus that does not reduce department reporting functionality available in the FileMaker Pro CLP.
- Develop ongoing operational support for Campus CLP including governance, managing future requests for changes, training, and establishing functional and technical support.

2.2. Objectives Not in Scope

Specifically out of scope for phase I include improved course approval/revision process, converting CLP information prior to 07-08, a Campus CLP data warehouse for longitudinal analysis, predictive curriculum modeling and statistical analysis.

Also out of scope is a future CLP data warehouse integrated into the campus data warehouse to support enrollment modeling and projects by CLP users and Institutional Research in Planning and Budget.

2.3. Deliverables

Set up web site to communicate information about the project to the campus community and finish project planning phase.

| Project Deliverable | Work Products/Description |
|----------------------------|--|
| CLP web site | Set up communication for Campus CLP project and provide a place to post feedback. |
| Final project plans | Campus CLP project plans, post on web site. |
| Decision to lock resources | ITS SMT (Senior Management Team) will lock ITS resources; other campus resources will be requested by Alison Galloway. |

Convert existing CLP into new Campus CLP and develop improved interfaces to reduce redundant data entry and improve data quality for departments and central offices.

| Project Deliverable | Work Products/Description |
|----------------------------------|---|
| Converted CLP 07-08 and forward | Information available for piloting Campus CLP. |
| Course Info interface | Bring finalized course approval/revision information into CLP from AIS on regular basis. |
| Batch Quarterly Scheduling | Support two-way communication between AIS-CLP for quarterly course scheduling including instructor, TA, classroom, independent studies, etc. |
| One-off quarterly course changes | Support minor changes by providing Office of the Registrar with a queue of requested changes to manage. Scheduling changes would be automatically sent back to CLP with |

| | |
|---------------------------------------|---|
| | revisions. |
| Quarterly Scheduling to AIS | The above processes should eliminate the need for the current TA turnaround process and automate the assignment of TAs from the CLP to AIS. |
| Faculty and partial TA list | Create timely interfaces between DivData and CLP and between PPS and CLP. Includes primary title and primary department. |
| Faculty, TA and Course Assistant list | Create timely interface between PPS and CLP. Includes salary, support rates, appointment and distribution information. |
| Update official enrollment in CLP | Third week and end of term enrollment from Data Warehouse to CLP. See use cases 6.1.2 and 6.1.3. |

Implement Annual Curriculum planning process.

| Project Deliverable | Work Products/Description |
|---|---|
| Implement Course Management | See list of course management use cases 1.1 – 1.6 |
| Implement Faculty Management | See list of faculty management use cases 2.1 – 2.7 |
| Implement Course Support Management for Course Assistants | See list of support management use cases 3.1 – 3.6 |
| Roll over prior CLP academic year | Enable curriculum analysts to choose what courses to roll over. |
| Plan faculty equivalencies | Use consistent list of faculty equivalencies in Campus CLP. Add comment field to support notes. |
| Plan curriculum | Assign faculty, TAs, Course Assistants, Readers and Tutors. |
| Develop reports to support Annual Planning process | See use cases 4.11.1 – 4.11.13 Develop strategic reports to support GenEd allocation process. See use cases 7.1 - 7.3. |
| Pilot Annual Planning process | Conduct pilot project, get feedback from users. |

Implement Quarterly Scheduling process.

| Project Deliverable | Work Products/Description |
|---|---|
| Update Quarterly Curricula | Make all changes necessary to support courses scheduled including classroom attributes, day and time, faculty, TA, and course support required. |
| Support Large Lecture course scheduling process from CLP to AIS | Large lecture scheduling creates a report used to inform this process. The import info from AIS to CLP is automatic and is based on the batch schedule process below. |
| Develop method to support batch schedule request process | Interfaces to support two-way communication between Campus CLP and AIS |
| Develop method to support one time schedule request changes | Interfaces to support two-way communication between Campus CLP and AIS |
| Develop method to support independent studies courses | In AIS change prior term copy to include only independent studies courses. Develop interface to send into from AIS to CLP. |
| Produce Faculty course assignment letters | Campus CLP reports |
| Produce TA course assignment letters and TA authorization forms | Campus CLP reports |

| | |
|---|-----------------------------|
| Produce Course Assistant course assignment letters | Campus CLP reports |
| Develop reports to support Quarterly Scheduling process | See use cases 5.3.1 – 5.1.8 |

3 Project Plan

3.1. Approach and Methodology

This project will be implemented on existing servers (if available) either as an AIS “bolt-on” application or as a standalone application on existing hardware (if available) such as ledge.ucsc.edu currently supporting BiobibNet. Because of the relative few transactions associated with the Campus CLP and the importance of regularized two-way communications between AIS and the Campus CLP, the recommendation is to develop a standalone application that shares the AIS infrastructure including web, application, and database environments. This recommendation is subject to review by the AIS steering and executive committees.

Once the infrastructure has been determined, the application architecture can be defined and the user interface can be established by developing a prototype using data converted from the current FileMaker Pro CLP. Once the prototype meets the usability standards of the CLP community, the application can be fully developed. The core processes of the CLP will be developed first: Annual Planning followed by Quarterly Scheduling.

Although we designed an improved business process for course approval/revision workflow, that effort will be implemented in a subsequent project. Instead, an improved interface from AIS to Campus CLP will be implemented as a first step improving data validity. This will support the course approval/revision process developed in a future phase of the project.

The AIS infrastructure uses an Apache/PHP web/application framework with an Oracle database back-end. This environment would support a collaborative development effort between AIS and Departmental Apps—Web Services (DAWS) within Applications Solutions.

The reporting infrastructure must be defined and integrated into the Campus CLP application architecture. This effort must be part of the prototype effort as it has a direct impact on usability. The selected enterprise reporting solution will have to be reviewed and vetted with the user and technical communities. Additional funding will be required if we must purchase a commercial product to meet reporting needs.

Given the demands on ITS resources from other high priority projects such as the AIS upgrade and the replacement Student Learning Management System (LMS) projects, it is recommended that we adopt a phased approach for CLP. Therefore, it is recommended that the next steps should be to complete the following deliverables:

- Establish the application infrastructure.
- Develop the one way interfaces from AIS, PPS, and DivData.
- Convert the CLP data.

- Set up the prototype and evaluate usability.

Once the prototype has been evaluated, we should regroup and plan the rest of the implementation, coordinating with AIS project team.

3.2. Project Timeline

The timeline is extremely tentative and subject to resource availability (both numbers of programming resources and kinds) to meet the needs of the project as described. These project estimates are derived from gross formulas and are high level projections. When technical resources are available, more detailed estimates will be provided. The project timeline is approximately 20 months.

| ID | Task Name | Start | Finish | Duration |
|----|---|---------|----------|----------|
| 1 | Determine infrastructure to support project | 6/1/08 | 6/30/08 | 1 month |
| 2 | Plan actual resource requirements to support project by kind (application programming, database modeling and design, database programming, testing, user acceptance testing, develop technical documentation, end user documentation, etc, etc) | 7/1/08 | 8/1/08 | 1 month |
| 3 | Decision to lock resources, SMT approval, VPAA approval | 8/1/08 | 8/29/08 | 1 month |
| 4 | Implement application infrastructure | 9/1/08 | 10/31/08 | 2 months |
| 5 | Implement one-way AIS/DivData/PPS/DWH interfaces | 10/1/08 | 12/31/08 | 3 months |
| 5 | Convert CLP data | 11/1/08 | 1/31/09 | 3 months |
| 6 | Implement Annual Planning | 11/1/08 | 2/28/09 | 4 months |
| 7 | Pilot Annual Planning modules with interested parties | 4/1/09 | 5/31/09 | 2 months |
| 8 | Implement two-way AIS/Campus CLP interfaces | 4/1/09 | 7/1/09 | 3 months |
| 9 | Implement Quarterly Scheduling | 6/1/09 | 9/30/09 | 4 months |
| 10 | Training, Go Live | 10/1/09 | 3/31/10 | 6 months |
| 11 | Address emerging issues (contingencies) and wrap up project | 4/1/10 | 4/30/10 | 1 month |

3.3. Success Criteria

- Implement a system that enables efficient, effective curriculum planning processes and provides comprehensive information in support of departmental, divisional, and campus-wide curriculum management. Standardized reports will be easily accessible.
- Provide both department managers and department chairs with a uniform ability to consistently manage faculty curriculum and leave, preserving the functionality as well as usability of the existing CLP. The users of the Campus

CLP will have reduced data entry requirements as well as more timely and accurate information from campus enterprise systems.

- Provide information to manage curriculum capacity planning in support of students' degree objectives. Have the ability to manage support for GenEd and critical capacity courses associated with the above degree objectives at the campus level.
- Implement a system that reduces or minimizes the operational costs associated with its support.
- Create an on-going cross-unit governance structure with academic leadership to address curricular and reporting changes.

3.4. Issues and Policy Implications

The success of this project is dependent on implementing improved business processes supported by automated interfaces between AIS and Campus CLP.

Department managers will need to adopt consistent business processes.

No formal application development methodologies have been adopted within Application Solutions at this time. If the project is dependent on methodologies in place, the project timeline will be impacted. If the project adopts AIS infrastructure application standards for development, the impact of this issue will be alleviated.

The Campus CLP is subject to FERPA regulations due to contact information with teaching and course assistants. The current FileMaker Pro CLP contains phone number and addresses of these students.

3.5. Risk Management Plan

The steering committee will evaluate and resolve any issues associated with this project. Other oversight groups include ITS Senior Management Team (SMT), ITS Divisional Liaison Council, ITC, Department Manager's group, AIS governance group and Assistant Deans. VPAA - Sponsor role assumes final decision making authority on scope, budget, and process issues. ITS makes final decisions on technical issues and assumes responsibility for adhering to UC technical and security policies.

| Risk Factor | Probability (H-M-L) | Impact (H-M-L) | Risk Management Action |
|---|---------------------|----------------|--|
| Resource availability | H | H | SMT agreement for technical resources and sequencing of project priorities. |
| Resource availability | M | H | Course sponsoring agency involvement for user acceptance testing. |
| Agreement across academic units on consistent processes | M | H | Get feedback from pilot project. Continue to engage department managers group and assistant deans in process. |
| Agreement to share AIS staff resources and infrastructure hardware platform(s). | L | M | Meet with AIS executive committee for review and approval. |
| AIS two-way interfaces | H | H | Wait -- AIS resources will not be available until after the PeopleSoft upgrade--Submit these changes as PTR requests for AIS prioritization. |

4 Technical Approach and Deliverables

Our intent is to use the existing AIS application infrastructure to implement this project. This project will be implemented by adhering to UCSC and UCOP policies. Technologies implemented will include Oracle, Apache and PHP on existing hardware/software servers. This implementation approach strives to reduce costs in the one project/multiple new servers by choosing an existing infrastructure to share resources.

The AIS infrastructure uses an Apache/PHP web/application framework with an Oracle database back-end. This environment would support a collaborative development effort between AIS and Departmental Apps—Web Services (DAWS) within Applications Solutions. Approximate cost savings gained from sharing an existing infrastructure:

- Oracle licensing ~\$30,000 one time, ~\$6,000 annual
- Server hosting 4 servers ~\$25,000 annual

4.1. Requirements

The Campus CLP will support approximately 200 total users, with peak concurrent usage of about 40 users. The user population is department managers or their assistants and college assistants who support curriculum planning. The number of transactions per hour is relatively small—the average user would make approximately 1000 transactions in support of the annual planning cycle, the average user would make approximately 2000 transactions per quarter in support of the quarterly scheduling cycle. Communication between AIS and CLP would need to occur 1-4 times per day at regularly scheduled intervals. The database would contain courses, instructors, scheduling information, but not actual student enrollment with the exception of some individual studies information (this requirement has not been finalized). The database would experience 100-200 transactions per hour during peak usage. We don't have the exact information on the database side, but AIS is aware of the numbers of sections offered per term, number of instructors (faculty and TA), and scheduling information. Our charge is to convert current FileMaker Pro CLP info from 07-08 forward. The first year, the Campus CLP will contain 3 years of planning information.

The uptime requirements are Monday through Friday 8-5pm. The current CLP system provides this level of service. The current FileMaker Pro CLP is composed of 5 FileMaker Pro databases located on 1 Dell 2950 Windows 2003 server in the Data Center and are managed by Rita McCue and Matt Henderson. These 5 databases are 5 of 100 other databases shared across campus departments. The database, application and user interface are all one—it does not support a development environment. Every change has to be made 5 times.

Requirements for authentication: The users want to use an existing username/password to authenticate. The application will support authorization based on application roles. Initially the application will be used by department staff and not by faculty—a subsequent project to support course approval/revision business processes will have faculty users—this application may not be part of the Campus CLP. Technically, Kerberos would meet the current application needs. Client Server requires secure communications.

Successful implementation of this application requires the following environments: Development, Test, QA, Production and Training

4.2. Technical Deliverables

Establish project on existing AIS application infrastructure.

| Project Deliverable | Work Products/Description |
|-----------------------|---|
| Web server | Apache -- Purchase or leverage existing resources |
| Database server | Oracle -- Purchase or leverage existing resources |
| Application server | PHP -- Purchase or leverage existing resources |
| Firewall rules | Purchase or leverage existing resources |
| Monitoring and backup | Purchase or leverage existing resources |

Develop Application Architecture to support usability objectives, interface requirements and establish integrated reporting environment.

| Project Deliverable | Work Products/Description |
|---------------------------------|---|
| Create Data Model | Develop Entity Relationship Diagram, create database. |
| Application development | Choose framework, navigation, establish user interface. |
| Set up environments/databases | Development, Test, QA, Production and Training. |
| Establish reporting environment | Determine how to deliver reports from within Campus CLP. |
| Establish security | Authentication, account management, roles, implement value based security |

5 Project Organization and Staffing

Initial tentative project organization and staffing.

| ROLE | NAMES & CONTACT INFORMATION | RESPONSIBILITIES | TIME |
|--|---|---|---------------------------------------|
| Executive Sponsor | Alison Galloway | Overseeing the project, steering committee chair | Meetings, direction |
| Functional Project Manager | Betsy Moses | Leading user acceptance | .1 FTE 20 months |
| Project Administration and Systems Analyst | Corinne O'Connell | Functional QA | 1 FTE 20 months |
| Technical Project Manager | Christi Bengard | Coordinate technical efforts, liaison with steering committee | .1 FTE 20 months |
| Technical task managers | DAWS – Brigitte Parot AIS – John Bartlett | Technical QA and docs Oversee AIS interface programming | .20 FTE 20 months .10 FTE 4 months |
| Advisors | Executive steering committee, department managers, college assistants, asst deans, DL council, ITS Support Center, ITS Security | Review | Various |
| Application Architecture | Lisa Gardner | Review architecture, technical review | 3 weeks |
| Security review | Security team | Review | .5 month |
| Database modeling | Applications Solutions DAWS | Database design | 1 month |
| Database Administration | Applications Solutions DBA group | Manage database | 2 months |
| Programming | Joan Hudson, Rita McCue AIS App Sol | Programming | 1 FTE 20 mos. 1 FTE 3 mos. |
| Quality Assurance | Corinne O'Connell | Testing code to specifications | Noted above |
| Technical Documentation | Joan Hudson, Rita McCue | Code, data flow diagrams, operational specifications | Noted above |
| User Acceptance testing | Lead: Department Manager to be assigned Participants: Department Manager group and Assistant Deans | Testing, user training manuals, conduct training | .3 FTE 20 mos. 20 hours each |
| AIS process managers | | AIS interface specifications and testing | .2 FTE 3 mos. |
| Registrar's Office | Pamela Hunt-Carter, Margie Claxton, Stacey Keleher | AIS interface specification and process review | .1 FTE 6 mos. |

6 Project Budget

Very preliminary estimates – Detailed project plans to follow prior to decision to lock resources.

| General Tasks | Who | Hours |
|--|------------|--------------|
| Project planning and management | General | 650 hours |
| Technical Infrastructure setup | Mixed | 250 hours |
| DBA support | AppSol | 220 hours |
| Convert data from existing FileMaker CLP databases | AppSol | 200 hours |
| Build prototype | AppSol | 450 hours |
| Application Architecture | AppSol | 80 hours |
| CLP Interface programming | AppSol | 600 hours |
| AIS Interface programming | AppSol | 500 hours |
| DivData PPS Interface programming | AppSol | 100 hours |
| Annual Curriculum Planning programming | AppSol | 1250 hours |
| Quarter Scheduling | AppSol | 1000 hours |

7 Appendix A - CLP timeline

The Curriculum and Leave Planning timeline includes calendar schedules for annual planning, leave planning, course approval, and course scheduling. Many of the calendar items are to support Registrar activities of Publications and Scheduling.

The following is the Course Approval Calendar for the 2007-08 academic year based on current business processes.

Course Approval Calendar for the 2007-08 Academic Year

* Info from Office of the Registrar

| Deadlines for a course to appear in the following publications | Term | To Division | To Publication Editors | CEP/ Grad Council Review |
|---|-------------|-------------------------------|-------------------------------|---------------------------------|
| Winter 2008 Schedule of Classes | Winter | 9/7/2007 | 9/14/2007 | 9/26/2007 |
| Winter 2008 Late Additions to Schedule | Winter | 10/29/2007 | 11/5/2007 | 11/13/2007 |
| Summer 2008 Schedule | Summer | 11/2/2007 (to Summer Session) | 11/26/2007 | 12/3/2007 (begin review) |
| Spring 2008 Schedule of Classes | Spring | 11/16/2007 | 11/26/2007 | 12/3/2007 |
| Program Statements (2008-2010 General Catalog) | Multi-Year | 12/3/2007 | 12/10/2007 | 1/16/2008 (begin review) |
| Spring 2008 Late Additions to Schedule | Spring | 2/1/2008 | 2/8/2008 | 2/15/2008 |
| Fall 2008 Schedule of Classes | Fall | 2/1/2008 | 2/8/2008 | 2/15/2008 |
| Course Manuscripts (2008-2010 General Catalog) | Multi-Year | 2/1/2008 | 2/8/2008 | 2/15/2008 (begin review) |
| Course Approvals (2008-2010 General Catalog) | Multi-Year | 2/1/2008 | 2/8/2008 | 2/15/2008 (begin review) |
| Faculty Lists (2008-2010 General Catalog) | Multi Year | 3/31/2008 | 4/7/2008 | |
| Final Hires/Promotions | N/A | | 5/15/2008 | |
| Fall 2008 Late Additions to Schedule | Fall | 8/4/2008 | 8/11/2008 | 8/18/2008 |

Scheduling Calendar for the 2008-09 Academic Year

| Activity | Accountability | Fall 2008 | Winter 2008 | Spring 2009 |
|--|-----------------------|-------------------------------|------------------------------|-----------------------------|
| Mail combined call for classes to course sponsoring agencies (lg lecture and non-lg lecture) | Registrar | 1/2/2008 | 3/31/2008 | 9/2/2008 |
| Large lecture requests due to Reg Office | Division | 1/23/2008 | 5/9/2008 | 9/26/2008 |
| LL prelim chart e-mailed to division | Registrar | 1/25/2008 | 5/13/2008 | 9/30/2008 |
| Large lecture meeting | Reg/Div/Dept | 1/29/2008 | 5/15/2008 | 10/2/2008 |
| Email revised large lecture chart and put on web | Registrar | 2/1/2008 | 5/17/2008 | 10/6/2008 |
| Scheduling sheets due to division | Depts | 2/13/2008 | 5/30/2008 | 11/3/2008 |
| Enroll, Orientation, Test, etc. requests due to Reg Office | | 2/20/2008 | 6/6/2008 | 11/10/2008 |
| Scheduling sheets due to Reg Office | Division | 2/20/2008 | 6/6/2008 | 11/10/2008 |
| Scheduling proofs sent to course sponsoring agencies | Registrar | 4/14/2008 | 9/25/2008 | 1/5/2009 |
| Signed and corrected proofs (scheduling for that qtr) due back to Reg Office | Depts | 4/18/2008 | 10/1/2008 | 1/12/2009 |
| Schedule of Classes available on web | Registrar | 5/9/2008 | 11/3/2008 | 2/17/2009 |
| Advising Week begins | | 5/12/2008 | 11/5/2008 | 2/18/2009 |
| Independent Study lists available | Registrar | 5/19/2008 | 11/14/2008 | 2/25/2009 |
| Enrollment appointments begin (to register for classes) | Registrar | 5/19/2008 | 11/14/2008 | 2/25/2009 |
| Late Additions to Schedule due | Depts | 8/22/2008 | 11/21/2008 | 3/5/2008 |
| Mail Class Info Roster to course sponsoring agencies | Registrar | 9/25/2008 | 1/5/2009 | 3/30/2009 |
| E-mail TA Turnaround to course sponsoring agencies | Registrar | 9/25/2008 | 1/5/2009 | 3/30/2009 |
| Instruction begins | N/A | 9/25/2008 | 1/5/2009 | 3/30/2009 |
| Changes to instructors of Individual Studies due back to Reg Office | Depts | 10/2/2008 | 1/12/2009 | 4/6/2009 |
| Changes to instructors on Class Info Roster due | Depts | 10/2/2008 | 1/12/2009 | 4/6/2009 |
| TA Turnaround due back to Reg Office | Depts | 10/9/2008 | 1/20/2009 | 4/13/2009 |
| Instruction ends | N/A | 12/5/2008 | 3/16/2009 | 6/5/2009 |
| Final Exams | N/A | 12/8/2008 to 12/11/2008 | 3/17/2009 to 3/20/2009 | 6/8/2009 to 6/11/2009 |

* Info from Office of the Registrar

8 Appendix B - Business Process Diagrams

See attached pdf

9 Appendix C - Business Processes

Course Approval Business Processes

The Course Approval process is a process whereby course sponsoring agencies request approval to create a new course or revise an existing course. Currently the Course Approval process is paper-based and as a result lacks efficiency in many respects.

General Overview

Course sponsoring agencies initiate the process by either filling out one or more forms hosted on the Office of the Registrar's web page or by populating and printing one or more forms from data entered into the FileMaker Pro CLP. In both cases one or more printed forms are then routed for review and signature by various parties (e.g. Department Chair then Dean for departmental sponsored courses, Dean for divisional sponsored courses, and Provost and VPDUE for college sponsored courses) and then routed to the Office of the Registrar where the request is routed to Academic Senate Committee members (CEP for undergraduate courses and Grad Council for graduate courses) for review. Courses that are approved are then re-keyed and entered into AIS.

There are numerous inefficiencies with the current course approval process:

- There is no automated validity checking of information entered on the request for course approval forms. This can result in data errors, additional communication to correct information, and ultimately delay the review process.
- The current review process by Academic Senate Committee members is cumbersome, inconvenient, and can delay a course from approval. The Office of the Registrar notifies Academic Senate Committee members when there are request for course approval (or revision) forms to review. Academic Senate Committee members physically go to Hahn and review a stack of request for course approval/revision forms. The review process of a single request for course approval/revision form can often be delayed until there are many forms to review.
- There is no tracking of where a request for course approval (or course revision form) is in the review queue. Departments are not notified when a course is approved by Academic Senate Committee members. They only are notified if a course is not approved.
- Information on request for course approval/revision forms is re-keyed by the Office of the Registrar in order to enter the information into AIS. This prolongs the process and has the potential of causing data inaccuracies.
- Changes made by the Office of the Registrar are not reflected in the FileMaker Pro CLP. This can result in data inaccuracies.

Proposed Solution

In the interest of making the course approval process more efficient, the Campus CLP Steering Committee has approved the development of a workflow-based online course approval system in the second phase of the Campus CLP project or as a separate project altogether. The general architecture of an online course

approval system would consist of a common interface to enter information for requesting course approval/revision, supported by a workflow-based routing system to electronically submit a request for review, the ability to route a request back in the event that modifications need to be made to a request, a tracking mechanism to log the status of a request for course approval/revision throughout the review cycle, a method of accepting a request for course approval/revision, a way of transferring the data on request forms to AIS, and updating the Campus CLP from AIS (or from a standalone course approval system).

Identified Benefits

Anyone within the campus community that is directly involved with the process of curriculum planning and management would be served by an online course approval system.

Reviewers of requests for course approval/revision would benefit by:

- the convenience of being able to review information online as opposed to having to physically be in their office or in the case of Academic Senate Committee members having to travel to Hahn to review courses
- the opportunity for better data quality
- having a tracking mechanism for logging the status of a request for course approval/revision
- a reduction in interruptions caused by requests to review a course approval/revision form
- the ability to have the Campus CLP updated from AIS
- the ability to have better data integrity as a result of the Campus CLP being updated

Course sponsoring agencies would benefit from having:

- a common interface to generate requests for course approval or revision that includes validity checking of data
- the ability to electronically submit their request for review
- the ability to check on the status of a request for course approval/revision
- the opportunity for a more expedient review process
- the ability to have the Campus CLP updated from AIS
- a reduction in paper and printing costs
- a reduction in interruptions that can occur during the course approval process
- a log of changes made to a course
- the ability to have better data integrity as a result of the Campus CLP being updated

The Office of the Registrar would benefit by:

- a reduction in data entry
- the opportunity for better data integrity and quality
- a reduction in interruptions that result from the course approval process
- a more efficient review process by Academic Senate Committee members
- having a tracking mechanism for logging the status of a request for course approval/revision
- the ability to have the Campus CLP updated from AIS
- the ability to have better data integrity as a result of the Campus CLP being updated

Identified Issues

Course Sponsoring

- The level of efficiency realized by an online course approval system is dependent on the degree of conforming among course sponsoring agencies to use the system. If some course sponsoring agencies choose not to use it, the old course approval process will also need to co-exist with the automated process. This will lessen the overall benefits achieved by the online course approval system because the issues associated with the paper-based process will continue.
- Course sponsoring agencies may indicate a requirement that a paper-based printout of the approved request for course approval/revision form be generated. This will minimize the cost savings that might have been realized from a non-paper based process.
- Course sponsoring agencies and those responsible for reviewing requests for course approval/revision will need to come to a consensus on the features and requirements of an online course approval system.

Office of the Registrar – Publications and Scheduling

- The degree of automation will depend on the ability of AIS to accept data from and to an outside system (e.g. Campus CLP). The reduction of data entry activities by the Office of the Registrar and the course sponsoring agencies are dependent on this ability.

Summary of Steering Committee Decision

The Campus CLP Steering Committee decided that a workflow-based online system for the campus to automate the course approval/revision process is out of scope in the first phase of the project but should be included in the second phase. The system could be a standalone process and result in sending both CLP and AIS the end product of the course approval/revision process.

See the diagram of Course Approval Business Processes.

Annual Curriculum Planning and Budgeting Business Processes

In the late fall quarter and beginning of winter quarter, course sponsoring agencies plan and budget for the curriculum to be offered for the next academic year. Departments are able to currently generate annual curriculum planning and budgeting reporting for divisions. Some divisional annual curriculum planning is also available. However, because the FileMaker Pro CLP consists of five separate systems, it does not have the capability to easily systematically generate campus-wide curriculum planning reporting.

General Overview

The timeline for annual curriculum planning typically begins in October and can extend until mid February. During October, departments send out a call to faculty for their teaching and leave plans. Divisions and colleges send out a call for curriculum planning and leave documents for the upcoming academic year. During late fall quarter, faculty submit their teaching and leave plans for the upcoming academic year. Departments submit their curriculum and leave plans to deans in early to mid winter quarter. Changes to the annual plan continue throughout the year as resources and faculty availability become known.

The process of developing an annual curriculum plan is multi-fold and usage of the current FileMaker Pro CLP can vary slightly by course sponsoring agency depending on what features of the system they have chosen to use.

The systematized annual curriculum planning process consists of the following sub-processes in the existing FileMaker Pro CLP.

Update Faculty Listing (including TAs, CAs, Readers/Tutors)

- Faculty, TAs, CAs, Readers/Tutors that are currently not in the CLP are added. This process is currently done by manual data entry. Course sponsoring agencies have indicated a request to have automated monthly or quarterly updates.

Annual Salary Adjustments

- On an annual basis in mid October, salary adjustments are made for faculty members in the CLP that have an employee id.

Annual Rollover of Curriculum Information

- On annual basis during late October or early November, curriculum information for each course offered during the same quarter of the previous year (or two years prior) is rolled over to the next academic year. Salary updates are performed in advance of the annual rollover.
- The course sponsoring preference of rollover interval is indicated within the database (previous year rollover, two years prior rollover, or no rollover).
- A new academic year is added to the Welcome Screen.

Faculty Equivalencies

- The term 'equivalencies' is a broad category within the FileMaker Pro CLP that is primarily used for faculty workload reporting and to identify those faculty who are on leave or relieved from teaching.
- As part of the annual (and quarterly planning), course sponsoring agencies assign equivalency values to faculty members where applicable.
- In the FileMaker Pro CLP, each division has a distinct set of equivalency values in a drop-down list to choose from. While there are some common equivalency categories among all divisions, there are

some divisional differences. For example, the same equivalency category might have different workload amounts for each division due to different workload standards.

- When assigning an equivalency to a faculty member, course sponsoring agencies can select a value from a drop-down list or they can choose to create a new equivalency value. Newly entered equivalency values are not added to the drop-down list of values. Consequently to re-use a value not available in the drop-down requires manual data entry.

Establish Curriculum Plan for the Upcoming Academic Year

- Course sponsoring agencies who opt to have an annual rollover of curriculum from a previous year (or two years prior) performed, will remove any courses and sections by term that will not be offered.
- Course sponsoring agencies add courses and sections by term that will be offered.
- Course sponsoring agencies may revise projected enrollment values where applicable for a course and section by term.
- Course sponsoring agencies may revise projected enrollment values for room scheduling where applicable for a course and section by term.

Associate Curriculum with Instructors, TAs/CAs, Readers/Tutors

- Course sponsoring agencies assign instructors to each course and section by term.
- Course sponsoring agencies assign TAs/CAs and Readers/Tutors where applicable to each course and section by term.

Run Annual Planning Reports

- Course sponsoring agencies run various annual curriculum planning reports and send them to the deans.
- Commonly run reports are: 3 column report, faculty workload, course enrollments, TA assignments by course, course costs, and others.
- Some departments have specific reporting needs not accommodated by the current FileMaker Pro CLP. An example is the Music department which has requested a report that combines costs for regular faculty instruction and applied instruction.
- Currently the FileMaker Pro CLP has just a few divisional reports. There are a few reports that have been identified as candidates for additional divisional reporting.
- Currently because the FileMaker Pro CLP is not centralized, there are no systematized campus-wide reports. VPAA and VPDUE have indicated a requirement for Gen Ed reporting and ad-hoc reporting.

Campus CLP Steering Committee Decisions

- In alignment with the goal outlined in the Campus CLP project proposal (of preserving or enhancing existing functionality of the FileMaker Pro CLP), the Campus CLP Steering Committee has decided to keep the current functionality of the FileMaker Pro CLP with respect to annual curriculum planning and add reports for departmental, divisional and campus-wide reporting.
- Create a consistent list of commonly used faculty equivalencies to simplify the data entry process and create the opportunity for enhanced equivalency related reporting. Enable users to data enter faculty equivalencies that are not on the drop-down list of faculty equivalencies.

- In order to achieve the goal of enabling campus-wide reporting of annual curriculum planning information, the Campus CLP Steering Committee has recommended establishing a common deadline of February 1st for the data entry of the annual curriculum and leave plan.

Identified Benefits

- Offering campus-wide reporting of Gen Ed information will enable the VPAA and VPDUE to have access to annual planning information that can be used for the purpose of supporting curriculum capacity.
- Offering campus-wide ad-hoc reporting will enable the VPAA and VPDUE to have access to annual planning information that can be used for the purpose of identifying curriculum capacity.
- Keeping the current functionality of the FileMaker Pro CLP will enable course sponsoring agencies to perform the task of annual curriculum planning in a similar manner as is currently being done. This will make the transition to a new system easier, will shorten the learning curve, and will enable productivity.
- Offering new reporting for the Music department that summarizes the total costs of associated with instruction of regular classes and applied instruction classes will enhance productivity and efficiency and provide valuable information for making strategic decisions.
- A consistent list of faculty equivalencies will reduce data entry, enable productivity and enable specific reporting that is currently not available.
- Implementing an automated process for updating the faculty listing will reduce data entry of faculty, TA/CA, and Reader/Tutor information.

Identified Issues

- A common data entry deadline for annual curriculum planning information will need to be established in order for campus-wide reporting to yield meaningful results. The Campus CLP Steering Committee recommends a deadline of February 1st. VPAA Galloway is vetting this with stakeholders.
- Creation of a consistent list of faculty equivalencies will involve running a report of existing faculty equivalency values and reviewing it with users.
- An automated process for updating the faculty list is a process that would affect both annual and quarterly planning. This process would reside outside of the annual planning process and will be described in the quarterly planning and scheduling section.

Summary of Enhancements to Annual Planning and Budgeting Processes

The Campus CLP Steering Committee has decided to keep the functionality for annual curriculum planning that is currently available in the FileMaker Pro CLP, and to add some additional processes, reporting, and functionality:

- Establish a common deadline (February 1) for the data entry of the curriculum and leave plan
- Add a consistent list for equivalencies
- Add requested divisional reports
- Create campus-wide reporting capability

- Set up an environment for running ad-hoc reports
- Develop Gen Ed reports

See the diagram of Annual Curriculum Planning and Budgeting business processes.

Quarter Scheduling Business Processes

General Overview

The Quarterly Scheduling Process is initiated two quarters prior to the scheduled term as specified by the Office of the Registrar's Scheduling Calendar. Course sponsoring agencies may send out a Lecture Letter to each faculty member to find out scheduling preferences (preferred days, times, and classrooms). The scheduling of classes falls into three categories:

- Scheduling classes in Large Lecture classrooms (applies to classes with more than 53 students). This process is facilitated by the Office of the Registrar/Publications & Scheduling.
- Scheduling classes in General Assignment classrooms (those listed at <http://reg.ucsc.edu/staff/classrooms/index.html>). This process is facilitated by the Office of the Registrar/Publications & Scheduling.
- Scheduling classes in classrooms managed by course sponsoring agencies.
- The quarterly scheduling process involves a coordinated effort by course sponsoring agencies, divisions, and the Office of the Registrar/Publications & Scheduling.

Quarterly scheduling involves identifying the course number, section, term, year, instructor(s), TAs/CAs, readers/tutors, projected enrollment values and course scheduling preferences (days, start and end times, room, and classroom features). It also includes scheduling secondary sections.

Scheduling Calendar for 2008-09

Below is the scheduling timeline for the 2008-09 academic year as set by the Office of the Registrar (source is http://reg.ucsc.edu/staff/2008_2009.htm):

| | |
|------------------|---|
| For Fall 2008: | Large lecture due to Registrar 1/23/08 |
| | Scheduling sheets due to Division 2/13/08 |
| | Scheduling sheets due to Registrar 2/20/08 |
| | Schedule proofs emailed to course sponsoring agencies 4/14/08 |
| | Signed and corrected proofs due to Registrar 4/18/08 |
| For Winter 2009: | Large lecture due to Registrar 5/9/08 |
| | Scheduling sheets due to Division 5/30/08 |
| | Scheduling sheets due to Registrar 6/6/08 |
| | Schedule proofs emailed to course sponsoring agencies 9/25/08 |
| | Signed and corrected proofs due to Registrar 10/1/08 |
| For Spring 2009: | Large lecture due to Registrar 10/2/08 |
| | Scheduling sheets due to Division 11/3/08 |
| | Scheduling sheets due to Registrar 11/10/08 |
| | Schedule proofs emailed to course sponsoring agencies 1/5/09 |

Scheduling Classes for Large Lecture Classrooms

Course sponsoring agencies first create schedule requests for classes that require a large lecture space (those having greater than 53 students). When generating a scheduling request for a large lecture space, course sponsoring agencies indicate their top three choices, listing information by days, start/end time, room name and features. Currently departments send their large lecture schedule request forms to their respective division. Divisions then assemble the departmental large lecture schedule requests into an Excel spreadsheet (similar to the one at <http://reg.ucsc.edu/staff/fall08LLchart.htm>), resolve inter-divisional conflicts for large lecture rooms then submit both the Excel spreadsheet and the individual scheduling request forms for each course sponsoring agency (<http://reg.ucsc.edu/staff/requestLargeLecture2088.pdf>) to the Registrar.

| Room | Classroom 2 | TA Med Theat. M110 | Humanities Lec Hall 206 | Earth Mar B206 | Thimann 3 | J Baskin Auditorium 101 | Oaks 105 | Classroom 1 | J Baskin 152 | Kresge 321 | Steven Merril 150 | Thimann 102 | Steven 173 | Kresge 327 | NTSciA 101 | Coll 8 240 | SSII 75 | SSII 71 | SSII 110 | Phys Sci 110 | Phys Sci 114 | Port 144 | Port 148 | Cowl 131 | | |
|-------------|--|---------------------------------|-------------------------|----------------|-----------|-------------------------|-------------|-------------------|----------------|--------------|-------------------|-------------|-----------------|-------------------|------------|---|-----------|---------------------|-----------------|----------------------|--------------|----------|----------|----------|----------|--|
| Capacity | 472 | 382 | 301 | 268 | 231 | 207 | 175 | 172 | 147 | 145 | 138 | 116 | 103 | 90 | 90 | 84 | 84 | 77 | 76 | 76 | 76 | 75 | 64 | 64 | 58 | |
| NWF | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8-9-10 | | Chem 1C-02 | Lt 61H | Biol 20C | Phys 6A | Econ 100A-01 | Econ 10A-02 | | | | | | | | | | | | | | | | | | His 175C | |
| 9:30-10:40 | Chem 1A-02 | Biol 20A | Astr 2-01 | Havc 80T | Eart 80A | Econ 100B | Econ 117A | Biol 140 | Econ 136 | Chem 163A | Econ 107 | Amst 114C | His 110D | Chem 112L (F) | | Havc 107A | | | | Math 110 | | | | | His 180A | |
| 11:00-12:10 | Chem 108L(M) | Chem 1C-01 | Lt 80N | Amst 10 | Phys 5A | Havc 10G | Biol 119 | Ocea 1 | Biol 100 | Econ 100A-02 | Astr 2-02 | Econ 108 | Pol 4 Lgpt 105A | | | Cmmu 145 | | | | Anth 134 | Ling 53 | | | | His 106B | |
| 12:30-1:40 | Econ 2 | Cmps 10 | His 40A | Ocea 80A | Econ 113 | Math 23A | Cmmu 80B | Econ x Ams 11B | EE 80S | Cmps 80V | His 2A | Pol 140B | Pol 4 | | | Biol 291 (M)/Biol 292 (F)/ Biol 294 (W) | Havc 105E | Econ 138 | Envs 165 | Phys 105 | | | | | | |
| 2:00-3:10 | Math 3-01 | Pol 1 | Math 11A-01 | Biol 175 | Math 11B | Math 19A-01 | Psyc 3 | Econ 101 | Econ 166A | Math 19B-01 | Psyc 10 | His 43 | | Envs 130A | | Havc 124 | | Lals 80X | Anth 111 | Phys 101A | Math 21 | | | | | |
| 3:30-4:40 | Econ 1 | Math 2 | Math 3-02 | Math 22 | Phys 6C | Math 11A-02 | His 65A | Math 19A-02 | Econ x Ams 11A | Phil 9 | Ltbr 131 | Econ 126 | Biol 130 | | | Astr 292 (W 3:30-5)/Envs 290 (M 3:30-5) | | | Lals 80D | Phys 195A (M 3:30-5) | | | | | | |
| 5:00-6:45 | | Socv 1 | Educ 92A | Lgpt 10 | | Cmpe 80N | Ltrel 115A | Film 120 | Art 80D | Ams 3 | Psyc 143 | His 123A | His 102A | Hisc 80N | Cmps 12B | Astr 292/ Envs 290 cont'd | Havc 106I | Lals 80Q (W 5-8:45) | Psyc 140Q | Econ 162 | Anth 130N | Socv 119 | | | | |
| 7:00-8:45 | Crow 80 (M 7-8:45)/ Merr 80 (W 7-9:30) | Oaks 80 (W 7-9:30)/Coi 80 (M) ? | | | | | | Film 120 (M 7-10) | | | | | | His 172B (W 7-10) | | | | | Lals 80Q cont'd | | | | | | | |

The Office of the Registrar then assembles all large lecture schedule requests into a master Excel file like the one pictured above and sends out this preliminary file to the Divisions. The Office of the Registrar conducts a Large Lecture meeting during which schedule conflicts among course sponsoring agencies are resolved. The Office of the Registrar then sends out a copy of the revised Large Lecture Excel file and publishes the information on the web. Course sponsoring agencies update the CLP with the actual large lecture information received from the Office of the Registrar. After the Large Lecture meeting, course sponsoring agencies may need to modify large lecture space. This is generally handled via phone calls to and email messages to the Office of the Registrar. Actual data entry of Large Lecture classes in AIS is done when all other classroom space is scheduled.

Scheduling Classes for General Assignment Classrooms and Department Controlled Spaces

Course sponsoring agencies use the CLP to enter scheduling requests for primary and secondary sections. Each course sponsoring agency that uses the FileMaker Pro CLP creates a Scheduling Request report and sends it to the Divisional Analyst (colleges are not currently using the FileMaker Pro CLP). The Divisional Analyst then assembles the Scheduling Request reports, submits them to the Assistant Dean (or Dean) for approval and signature, and then sends them to the Registrar. The Office of the Registrar then proceeds with a variety of processes involving scheduling and room assignment.

- First they perform a process in AIS that does a prior term copy of information from the previous year (same quarter). Prior term copy sets the classes with a section number and a class number. Classes that will not be offered are deleted. Classes that were not offered in the previous year (but

will be offered) are added. In addition, information on meeting times, projected enrollment, requested room features, instructors, etc. are added manually into the new term.

- Next they run a batch process to bring the classes into Resource 25 for room assignment. A process is run in Schedule 25 for those classes that are requesting a general assignment classroom. Typically there are 350-400 classes each quarter that fall into that category and approximately 40 classes that do not get a room during this initial assignment.
- Then the information is imported back into AIS. Any additional changes are made directly in AIS (the Registrar looks in Resource 25 for room availability but then makes the change in AIS).
- The Registrar then mails the scheduling proofs to the course sponsoring agencies.
- The course sponsoring agencies review the proofs, make any corrections and then mail a signed copy of the corrected scheduling proofs to the Office of the Registrar.
- The course sponsoring agencies then update the actual scheduling information in the CLP after they have received confirmation from the Office of the Registrar. The CLP updating process involves comparing the scheduling proofs from the Registrar's office to the schedule requests in the CLP, marking those schedule requests that match the schedule proof and in cases where there isn't a match re-entering the actual schedule information into the CLP.
- The Office of the Registrar then publishes the schedule of classes on the web.
- If additional scheduling changes need to be made after the initial scheduling, requests are communicated from the course sponsoring agencies to the Registrar via email or phone.

Identification of Issues and Inefficiencies

- The current class scheduling process has a number of inefficiencies, many of which involve data re-entry.
- There is currently no validity checking of information in the FileMaker Pro CLP for scheduling requests.
- Scheduling request information is submitted to the Office of the Registrar in a paper format.
- The Office of the Registrar manually enters the scheduling request data into AIS. After the initial scheduling requests are added into AIS there can be many additional changes to scheduling. Additional requests for scheduling changes (after the original submittal of scheduling requests to the Registrar's office) are communicated via email messages and by phone calls to the Registrar's office.
- In addition to data entry into AIS, the Office of the Registrar uses an interface with Resource 25 and Schedule 25 in order to place classes into classrooms. In many cases there is communication that goes on between the Office of the Registrar and course sponsoring agencies in order to schedule a class.
- The course sponsoring agencies have to manually update the FileMaker Pro CLP with the actual schedule. This process involves comparing the scheduling proofs from the Registrar's office to the schedule requests in the CLP, marking those schedule requests that match the schedule proof and in cases where there isn't a match re-entering the actual schedule information into the CLP.
- The classroom and classroom features information in the FileMaker Pro CLP is currently static and is not updated.
- The FileMaker Pro CLP is not synched up with AIS. This can lead to data inaccuracies.

Subcommittee Analysis of Scheduling Process

A subcommittee has been formed (with membership from Applications Solutions and the Office of the Registrar) to analyze alternative strategies for scheduling courses. The objectives in this analysis are to identify scheduling strategies that will:

- Reduce or eliminate data re-entry
- Improve data quality
- Provide better reporting
- Provide more timeliness of course scheduling
- Provide subject area user level access to schedule classes

The Scheduling Process Subcommittee presented to the Campus CLP Steering Committee alternative strategies for scheduling courses. The Campus CLP Steering Committee decided on a solution that will include interfaces between CLP and AIS to achieve more efficient scheduling.

CLP/AIS Interfaces Overview

The CLP/AIS Interfaces alternative preserves the existing process for course sponsoring agencies to enter their schedule request information into the CLP and preserves the existing process of enabling divisional review and approval of scheduling requests.

An interface from CLP to AIS enables CLP quarterly scheduling requests to be submitted by the division to the Office of the Registrar where they are fed directly into AIS thereby significantly reducing or eliminating the need for data re-entry on the part of the Registrar. The Registrar then performs some validity checking of the data within AIS.

On a specified date, the Registrar runs a process on the schedule requests where scheduling requests are batch loaded into Resource 25, and if necessary some schedule requests are fed into Schedule 25. Next after the Resource 25 and Schedule 25 process, AIS is updated.

After AIS is updated, the Registrar distributes scheduling proof reports to the course sponsoring agencies. Course sponsoring agencies make any corrections to the scheduling proofs and send signed scheduling proofs back to the Registrar. The Registrar then updates AIS, and an interface from AIS to CLP updates CLP with the updated schedule information.

Additional scheduling requests after the initial schedule requests submitted by the Division to Registrar would be handled as follows. Individual requests for scheduling changes are queued in the CLP, a queue status is logged as 'pending'. The Registrar's office would then view the pending scheduling request changes and submit any scheduling request changes that are ready to be loaded into AIS. As each schedule request is recorded into AIS, it is automatically loaded into Resource 25 where rooms are assigned. Next AIS is updated. Then an interface between AIS and CLP updates the schedule request queue, changing the queue status. Next the CLP is updated with the schedule change.

Instead of the Registrar's office performing a prior term copy process for all courses, it may be preferable to utilize the curriculum plans; the feasibility of this is still being analyzed. It is possible that the prior term copy process could be run just for independent studies classes.

Advantages:

The CLP/AIS Interfaces alternative preserves the existing schedule request process for course sponsoring agencies to enter their schedule request information into the CLP and preserves the existing process of enabling divisional review and approval of scheduling requests. It reduces the amount of data re-entry. By providing a complete loop from CLP to AIS to CLP, there would be less of a need for course sponsoring agencies to perform data re-entry because the actual scheduling results would be written to the CLP. It enhances data quality and creates a more efficient class scheduling process. It preserves or provides the ability to enhance the needed level of security with respect to subject area user access.

Disadvantages:

The CLP/AIS Interfaces process is dependent on the ability of AIS to integrate with another system in order to receive CLP generated scheduled requests and to send the resulting scheduling proofs to the CLP. This dependency is both a system one and a resource one in that the system will need to be capable of interfacing and there will undoubtedly be AIS resources required to assist in the development. Additionally this interface would be delayed due to the AIS upgrade which is due to take place in Summer 2008 with additional development being completed in a November 2008 timeframe. The extent to which efficiency is realized out of this solution is dependent on user acceptance and consistency of scheduling request practices.

Campus CLP Steering Committee Decisions for a Quarterly Scheduling Solution

In the interest of making the scheduling request process more efficient, the Campus CLP Steering Committee has decided that the Campus CLP include validity checking of scheduling related information prior to submittal to the Registrar. For example, there could be validity checking that checks if a course has an active status. Another example of validity checking is verification of room features. The Quarterly Scheduling Request area should include direct links to the Registrar's web page where General Assignment classrooms and their features are listed.

The Campus CLP Steering Committee has decided that there should be an interface or process created to do a quarterly import of classroom and classroom amenities. Currently the classroom and classroom amenities are not updated. The information should originate from the Registrar.

Reducing or eliminating manual data re-entry should be a priority when designing the Campus CLP system. Currently schedule request data is manually entered into AIS by the Registrar; a process that takes one month to complete. The Campus CLP Steering Committee has decided that there should be an interface to load schedule requests from course sponsoring agencies into AIS. Ideally there would also be an interface that would update the Campus CLP with the actual scheduling information from AIS (and potentially send scheduling proofs electronically). It is possible that scheduling proof reports could be generated electronically from Cognos. The feasibility of this solution needs to be discussed with the Registrar.

Identified Benefits of the Quarterly Scheduling Solutions

Anyone within the campus community that is directly involved with the process of curriculum scheduling would be served by having a more efficient class scheduling process.

Course Sponsoring Agencies would benefit from

- a common interface to schedule requests that includes validity checking of data
- the ability to electronically submit their schedule requests
- the opportunity for a more expedient process
- the ability to have the Campus CLP updated from AIS
- a reduction in paper and printing costs

- a reduction in interruptions that can occur during the class scheduling process
- the ability to have better data integrity as a result of the Campus CLP being updated

The Office of the Registrar would benefit from

- a reduction of data re-entry and data clean-up of schedule request information
- the opportunity for a more expedient process
- a reduction in interruptions that can occur during the class scheduling process
- the ability to have better data integrity

Identified Issues

Course Sponsoring Agencies

- The level of efficiency realized by automating the scheduling request process is dependent on the degree of user acceptance. If some course sponsoring agencies choose not to use it, the scheduling request process will also need to co-exist with the automated process.
- Schedule requests currently can include comments for the Registrar about scheduling preferences such as days, times, and feature preferences. Because scheduling requests are currently manually entered into AIS, the Registrar can perform more validity checking.
- When making schedule requests for general assignment classrooms, course sponsoring agencies cannot request rooms but instead must request features. This is to ensure that the room that is actually scheduled has the necessary room features.
- Colleges currently do not use the FileMaker Pro CLP.

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- The degree of automation will depend on the ability of AIS to accept data from and to an outside system (e.g. Campus CLP). The reduction of data entry activities by the Registrar and the course sponsoring agencies are dependent on this ability.

Summary of Campus CLP Steering Committee Decisions

The Campus CLP Steering Committee has decided that the development of a workflow-based online system for the campus to automate the quarterly scheduling process should be in scope during the first phase. Actual logistics and feasibility of automating this process is dependent on capabilities in AIS. Applications Solutions is currently having meetings with the Office of the Registrar.

This solution preserves the existing techniques that course sponsoring agencies use to enter scheduling requests while at the same time reduces the need for data re-entry. It preserves the subject area user access control. It provides a more efficient process for making and tracking schedule changes. It reduces the amount of communication needed between course sponsoring agencies and the Office of the Registrar to do scheduling.

See the diagrams of Quarterly Scheduling business processes.

10 Appendix D - List of Reports

Course Management Reports

Existing Reports:

List of Courses

Faculty Management Reports:

Existing Reports:

List of Faculty

Faculty Assignment Letter

Faculty History

Support Management Reports

Existing Reports:

List of Support

TA Authorization Form

TA Assignment Letter

TA Checklist

Annual Reports

Existing Reports:

Three Column Report (enhancements requested)

Faculty Workload Report

Course Costs – Division (enhancements requested)

Course Costs – Department (enhancements requested)

Equivalency Costs – Division (enhancements requested)

Equivalency Costs – Department (enhancements requested)

TA Costs – Department

TA Assignments By Course

TA Assignments By Name

Reader Costs – Department

Course Enrollments

Course Fees

Applied Instruction

Independent Studies

Course Summary

CLP List

New Report Requests for Campus CLP:

- General Education (requested by VPDUE and VPAA)
- Course Capacity Report (requested by VPDUE and VPAA)
- Ad-hoc reports (requested by VPDUE and VPAA, and by all depts.)
- Temporary Academic Staffing Report

Quarterly Scheduling Reports**Existing Reports:**

- Registrar Large Lecture Request (revisions requested)
- Registrar Scheduling Request
- Course List By Term
- Course List By Course #
- Course List Primary Sections
- Course List Primary & Secondary Sections
- Course List Primary with Course Descriptions
- TA Turnaround (may not be needed)

New Reports:

- Schedule Request Change Report
- 60/40 Distribution Report
- New report requirements being gathered

11 Appendix E - CLP List of Use Cases

The following is a preliminary list of use cases. These use cases are subject to change. New use cases may be added to the list and some uses cases that are listed may be revised or deleted.

1. Course Management
 - 1.1. Find Courses
 - 1.1.1. Find All Courses
 - 1.1.2. Find Courses
 - 1.1.3. Find Active Courses
 - 1.2. List Courses
 - 1.3. Interface with AIS
 - 1.3.1. Effective Dating of Course Info
 - 1.4. View Course History
 - 1.5. Manage Course Change Requests
 - 1.5.1. Course Changes
 - 1.5.1.1. Create a New Course
 - 1.5.1.2. Revise an Existing Course
 - 1.5.1.3. Delete an Existing Course
 - 1.5.1.4. Capture Cross listings
 - 1.5.1.5. Suspend an Existing Course
 - 1.5.1.6. Reactivate an Existing Course (new instructor)
 - 1.5.1.7. Request for Course Approval Form
 - 1.5.1.8. Request for Course Revision Form
 - 1.5.1.9. Request for Cross listed Course Form
 - 1.5.2. Course Change Approval (out of scope in first phase)
 - 1.5.2.1. 1st Level Approval (Dept Chair or Provost) -- Optional
 - 1.5.2.2. 2nd Level Approval (Dean or VPDUE)
 - 1.5.2.3. 3rd Level Approval (Registrar)
 - 1.5.2.4. 4th Level Approval (CEP or Grad Council)
 - 1.5.3. Course Change Rejection
 - 1.5.4. Communicate Course Changes (Interface from AIS)
 - 1.6. Reporting
2. Faculty Management
 - 2.1. Find Faculty
 - 2.1.1. Find All Faculty
 - 2.1.2. Find Faculty
 - 2.1.3. Find Active Faculty
 - 2.2. List Faculty
 - 2.2.1. Faculty List
 - 2.3. View Faculty Information
 - 2.3.1. View Contact Info
 - 2.3.2. View Current Workload
 - 2.3.3. View Course History

- 2.3.4. View Faculty Equivalencies
- 2.3.5. View Salary History
- 2.4. Reporting
 - 2.4.1. Print Mailing Labels
 - 2.4.2. Create Mail Merge
 - 2.4.3. Print Current Faculty Assignment Letter
 - 2.4.4. Print Faculty History
- 2.5. Faculty Change History
 - 2.5.1. Original, effective date of change
- 2.6. Interfaces
 - 2.6.1. Interface: Monthly Addition of New Faculty (from DivData upload)
 - 2.6.2. Interface: Monthly Addition of New Faculty (from PPS upload)
 - 2.6.3. Interface: Monthly Faculty Updates Including Salary, title, etc. from DivData, PPS
(needs to include distinctions of annual vs. retro salary)
 - 2.6.4. Interface: Addition of AIS Id for Faculty (from AIS)
- 2.7. Manage Faculty Changes
 - 2.7.1. Create a New Faculty Record
 - 2.7.2. Delete a Faculty Record
 - 2.7.3. Add Faculty Contact Info
 - 2.7.4. Add Faculty Equivalencies
 - 2.7.5. Modify Faculty Equivalencies
 - 2.7.6. Delete a Faculty Equivalency record
 - 2.7.7. Add Faculty Salary
 - 2.7.8. Modify Faculty Salary
 - 2.7.9. Delete a Faculty Salary record
- 3. Support Management
 - 3.1. Find Support
 - 3.1.1. Find All Support
 - 3.1.2. Find Support
 - 3.1.3. Find Active Support
 - 3.2. List Support
 - 3.2.1. Support List
 - 3.2.2. List Support Current Courses
 - 3.2.3. List Support Course History
 - 3.2.3.1. List Support Course History
 - 3.2.3.2. List a Record in Support Course History
 - 3.2.4. List Readers/Tutors Course History
 - 3.2.4.1. List Readers/Tutors Course History
 - 3.2.4.2. List a Record in Readers/Tutors Course History
 - 3.3. Reporting
 - 3.3.1. Print Mailing Labels
 - 3.3.2. Create Mail Merge
 - 3.3.3. Print Current TA Authorization Form
 - 3.3.4. Print Current Assignment Letter
 - 3.3.5. Print Current TA Checklist
 - 3.4. Support Change History
 - 3.4.1. Original, effective date of change
 - 3.5. Interfaces
 - 3.5.1. Interface: Monthly Addition of New Support (from DivData upload)
 - 3.5.2. Interface: Monthly Addition of New Support (from PPS upload)
 - 3.5.3. Interface: Support Rate Changes
 - 3.5.4. Interface: Addition of AIS IDs for Support (from AIS)

- 3.6. Manage Support Changes
 - 3.6.1. Create a New Support Record
 - 3.6.2. Delete a Support Record
 - 3.6.3. Add/Modify Support Contact Info
 - 3.6.4. Support Rate Changes
- 4. Annual Planning
 - 4.1. Review Faculty Records in CLP for employee id, DivData id (this is so they can get updated with salary adjustments)
 - 4.2. Create a New Faculty Record (2.7.1.)
 - 4.3. Interface: Annual update of faculty salaries and support rates
 - 4.4. Rollover Curriculum Plan From Previous Year, 3rd Week Enrollment Values, Add New Academic Year
 - 4.5. Add Faculty Equivalencies (2.7.4.)
 - 4.6. Establish Curriculum For Upcoming Year
 - 4.6.1. Review curriculum that was rolled over
 - 4.6.2. Delete curriculum that won't be offered
 - 4.6.3. Create a Course/Section Record
 - 4.6.4. Duplicate a Course/Section Record
 - 4.6.5. Cancel a Course/Section Record (planned by not offered)
 - 4.7. Find Courses
 - 4.7.1. Find All Course/Section Records
 - 4.7.2. Find A Course/Section Record
 - 4.7.3. Find Active Course/Section Records
 - 4.8. Assign or Modify Instructors For Course/Section Records
 - 4.8.1. Assign Instructor for a Course/Section Record
 - 4.8.2. Modify Instructor for a Course/Section Record
 - 4.8.3. Delete Instructor for a Course/Section Record
 - 4.9. Add Projected Enrollment to a Course/Section Record
 - 4.10. List CLP
 - 4.11. Run Annual Planning Reports
 - 4.11.1. 3 Column
 - 4.11.2. Course Costs – Dept
 - 4.11.3. Course Costs – Division
 - 4.11.4. Equiv Costs – Dept
 - 4.11.5. Equiv Costs – Division
 - 4.11.6. TA Costs Dept
 - 4.11.7. Reader Costs – Dept
 - 4.11.8. Course Enrollments
 - 4.11.9. Course Fees
 - 4.11.10. Faculty Workload
 - 4.11.11. Faculty Assignment Letters
 - 4.11.12. Applied Instruction
 - 4.11.13. Independent Studies (quarterly report)
- 5. Quarterly Scheduling
 - 5.1. Quarterly Curriculum Review and Set Up
 - 5.1.1. Review Quarterly Curriculum Plan
 - 5.1.2. Create a Course/Section Record (use case 4.6.3)
 - 5.1.3. Duplicate a Course/Section (use case 4.6.4.)
 - 5.1.4. Cancel a Course/Section (planned by not offered) (use case 4.6.5.)
 - 5.1.5. Review Instructor(s) assigned to a Course/Section
 - 5.1.6. Assign Instructor to a Course/Section (4.8.1.)
 - 5.1.7. Modify Instructor for a Course/Section (4.8.2.)

- 5.1.8. Delete Instructor for a Course/Section (4.8.3.)
- 5.1.9. View Instructor Information (by clicking on arrow next to instructor assigned to course)
- 5.1.10. View TA Information (by clicking on arrow next to TA assigned to a course)
- 5.1.11. View Reader/Tutor Information (by clicking on arrow next to Reader/Tutors assigned to a course)
- 5.1.12. Quarterly update from the Registrar of room and features information to support the scheduling process
- 5.1.13. Enter Miscellaneous Class Notes (in Misc tab area)
- 5.1.14. Add Projected Enrollment to a Course/Section Record if they don't already exist (see use case 4.9)
- 5.2. Manage Schedule Requests
 - 5.2.1. Large Lecture Schedule Requests (pre-scheduling)
 - 5.2.1.1. Create Large Lecture Room Request
 - 5.2.1.1.1. Enter Large Lecture Room Request
 - 5.2.1.1.2. Modify Large Lecture Room Request (to do)
 - 5.2.1.1.3. Delete Large Lecture Room Request (to do)
 - 5.2.1.1.4. Find Large Lecture Courses
 - 5.2.1.1.5. Print or Export Large Lecture Request Report to Division
 - 5.2.1.2. Division: Large Lecture Request Review and Processing
 - 5.2.1.2.1. Division Assembles Large Lecture Requests
 - 5.2.1.2.2. Division Submits Large Lecture Requests to Registrar
 - 5.2.1.3. Registrar: Large Lecture Request Review and Processing
 - 5.2.1.3.1. Registrar: Consolidates Large Lecture Requests into Excel
 - 5.2.1.3.2. Registrar Distributes Preliminary Large Lecture Proof
 - 5.2.1.3.3. Registrar Facilitates Large Lecture Meeting
 - 5.2.1.3.4. Registrar Updates Large Lecture Excel File
 - 5.2.1.3.5. Registrar Distributes Large Lecture Chart
 - 5.2.1.3.6. Division Distributes Updated Large Lecture Chart to Course Sponsoring Agencies
 - 5.2.1.4. Update CLP with Actual Large Lecture Room Request info
 - 5.2.2. Initial Schedule Requests (Large Lecture and Non-Large Lecture)
 - 5.2.2.1. Enter Scheduling Requests for Primary and Secondary Sections (on Scheduling tab)
 - 5.2.2.2. Print or Export Scheduling Request Forms (submit to Division)
 - 5.2.2.3. Division Runs Division-wide Scheduling Requests
 - 5.2.2.4. Schedule Request Approval (Dean/Asst Dean/Provost)
 - 5.2.2.5. Interface: Division submits schedule requests to Registrar/AIS (there should be validity checking included)
 - 5.2.2.6. Registrar: Sends schedule proofs to course sponsoring agencies
 - 5.2.2.7. Course sponsoring agencies indicate corrections to scheduling proof
 - 5.2.2.8. Registrar: Revises AIS with scheduling proof corrections
 - 5.2.2.9. Interface from AIS to update CLP (flag set to indicate initial scheduling has been done)
 - 5.2.2.10. Interface from AIS to Update CLP with Independent Studies Course Information and Their Respective Enrollments
 - 5.2.3. Scheduling Request Changes
 - 5.2.3.1. Enter Scheduling Request Changes (state preservation – original state saved, copy of original state where changes are indicated, actual schedule will be updated from AIS)
 - 5.2.3.2. Registrar: Loads Scheduling Change Request Into AIS
 - 5.2.3.3. Interface: AIS Updates Scheduling Queue With Actual

- 5.2.3.4. Scheduling Queue Updates CLP (status set to completed)
- 5.2.4. Independent Studies
 - 5.2.4.1. Enter Independent Studies (Misc tab)
- 5.3. Quarterly Scheduling Reporting
 - 5.3.1. Scheduling Reports
 - 5.3.1.1. Registrar Large Lecture Request (incorporate new requirements)
 - 5.3.1.2. Registrar Scheduling Request
 - 5.3.1.3. New: Schedule Request Change Report
 - 5.3.1.4. Course List By Term
 - 5.3.1.5. Course List By Course #
 - 5.3.1.6. Course List Primary Sections
 - 5.3.1.7. Course List Primary & Secondary Sections
 - 5.3.1.8. Course List Primary with Course Descriptions
 - 5.3.2. Faculty Reports
 - 5.3.2.1. Faculty Assignment Letters
 - 5.3.3. TA Reports
 - 5.3.3.1. TA Turnaround
 - 5.3.3.2. TA Assignments by Course
 - 5.3.3.3. TA Assignments by Name
 - 5.3.3.4. TA Checklist
 - 5.3.3.5. TA Authorization Forms
 - 5.3.3.6. TA Assignment Letters
- 6. Quarterly Curriculum Management
 - 6.1.1. Find Previous 3rd Week Enrollment (applies to those courses that were added and not part of the annual rollover—there should be a process that performs this if it is blank)
 - 6.1.2. System Administration: Update 3rd Week Enrollment (from DWH)
 - 6.1.3. System Administration: Update End of Term (from DWH)
- 7. Reporting
 - 7.1. GenEd Reporting
 - 7.2. Carrying Capacity Reporting
 - 7.3. Ad-hoc Reporting