Faculty Instructional Activity: How to Build It

Session #31602

10:30 AM to 11:30 AM

Your Presenters

- Conrad Vanek
  - Senior Data Architect, Information Technologies
  - Loyola University Chicago
- Richard Hurst
  - Director, Institutional Research
  - Loyola University Chicago
- Ashley Silverburg
  - Chief Data Architect
  - Phytorion, Inc.

Overview

- In this session, we will discuss
  - Our Path to a Data Warehouse
  - The Process to Build the Data Warehouse
  - The First BI Application Designed From the Data Warehouse – Faculty Instructional Activity

Loyola University Chicago

- Private Jesuit University
- Founded in 1870
- Faculty
  - Full Time - 750
  - Part Time - 750
- Students
  - Undergrad - 9723
  - Graduate - 4543
  - Professional - 1454

Loyola University Chicago Environment

PeopleSoft

Campus Solutions 9

Oracle

11g

WebFOCUS

7.7.03

IBM Cognos Data Manager

10.1.1

Faculty Instructional Activity

Instructors

- Any Employee with an Active Faculty Position
- Any Employee Teaching a Course in a Term
- Determine Type
  - Tenure
  - Full-Time Contract
  - Part Time
- Determine Home School/Department Location
  - Part-Timers by Class Subject
  - All Others by Department

Courses

- Course Component
  - Lab/Discussion
  - Lecture/Seminar
- Undergraduate Courses - Enrollment > 5
- Graduate Courses – Enrollment > 3
- Unique to the Instructor
  - Start/End Time
  - Campus/Building/Room
  - Meeting Days
  - Term

Instructor Measures

- Number of Courses
- Course Credit Hours
- Total Student Credit Hours
- Total Enrollment
- CORE Hours Taught
- Faculty Load

Data Sources

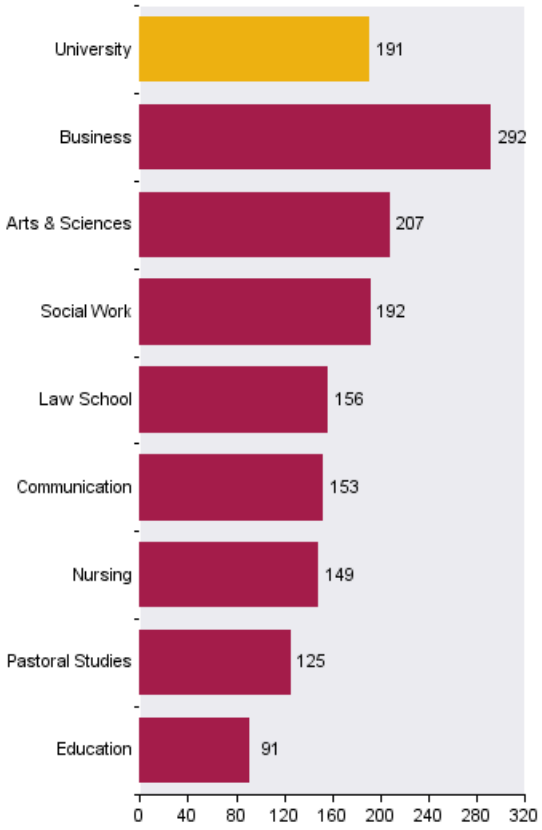
- PeopleSoft
- Lawson (HR/Finance)
- Institutional Research Data
- Faculty Information System (In-house)
- ID Provisioning System (In-house)

Average Hours Taught | Average Teaching Load | Average Class Size | % of CORE Hours Taught | Show term selector.

Institutional Research Faculty Instructional Activity Dashboard

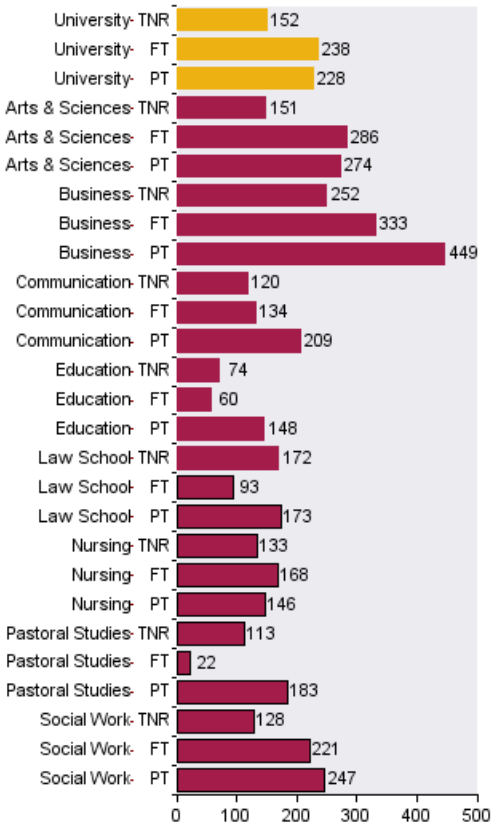
Average Class Hours Taught ?

All Faculty By School For Term: 1132



Average Class Hours Taught ?

By School / Faculty Type For Term: 1132



Road to a Data Warehouse

Current Reporting Environment

- Reporting Data Service (RDS)
- Information Builder's WebFOCUS Reporting Tool
- Output Predominately Delivered With Excel
- Minimal Historical Data
- Limited Direct Data Accessibility to Functional Community

PeopleSoft Upgrade

- Major Impact on the RDS
- Initial Data Warehouse/Business Intelligence (DW/BI) Options Reviewed
- Phytorion Engaged to Upgrade RDS

DW/BI Initial Assessment

- Engaged a Consultant From The Data Warehouse Institute (TDWI) to Conduct Interviews
- Goals
  - Evaluate Current Services Provided
  - Capture Unmet Needs
  - Determine Data Accessibility Versus Need
- Analyze Our Findings

DW/BI Strategy

- Recommendations
  - Outlined Critical Business Themes and Issues
  - Identified Key Data Required for Analysis
  - Acquire an Enterprise Data Warehouse
- Components
  - Data Architecture (Logical)
  - Technical Architecture (Physical)
  - Data Governance (Process)

How the Project Was Implemented

Business Case

- Project Sponsors
- Project Approval
- DW/BI Program Management
- Investigate & Evaluate Technical Alternatives
  - Custom/Hybrid/Package
  - Build Detailed Budget
  - Identify Required Resources
- Select First DW/BI Project

Collaborative Effort

- Roles and Responsibilities
  - Academic Areas
  - Functional Departments
  - Information Technology
  - Institutional Research
  - Phytorion

The Role of Institutional Research

- They Provide Information Used for Planning, Policy Formulation, and Decision Making
- They Assist University Departments with Research and Assessment
- They Collect, Analyze, Distribute, and Present University Data
- They Respond to Diverse Requests for Data
- They are Responsible for Vital University Statistics

Requirements Gathering

- Key Stakeholders Identified
- Project Team Formed
- Phytorion and IT
  - Conducted Iterative Meetings with Stakeholders to Gather Business Requirements
  - Determined Scope
  - Gathered Customizations to Campus Solutions
- Phytorion Developed Specifications with a Multi Phased Approach
- Produced Design Documentation Listing Business Rules and Tables
- Design Delivered Via Web Conference Calls Between Phytorion and Functional Users

Proof of Concept

- Faculty Instructional Activity
  - IR and IT Reviewed and Refined
    - The Requirements
    - Data Sources
    - Proposed Calculations
    - Definitions
  - IR and IT Built a Prototype

Challenges

- Staffing
- Day-to-day Responsibilities
- Functional User Time Commitments
- Learn New Data Architecture
- Learn Dimensional Modeling Schemas

Successes

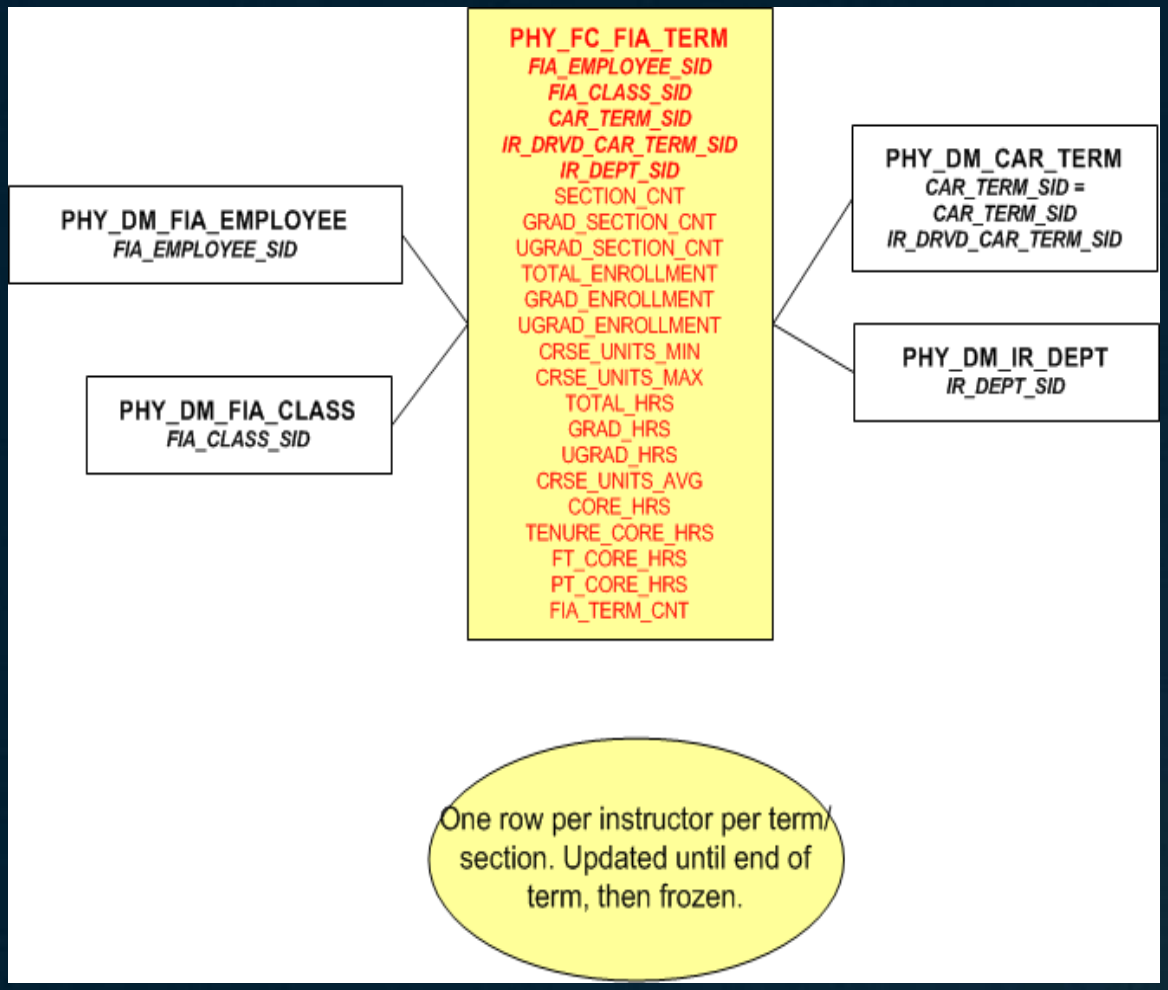
- Examination of Source System Data
- Uncover Data Anomalies
- Quick Response to Issues by Phytorion
- Faculty Instructional Activity Prototype

Data Warehouse Components

Modules

- Campus Solutions
  - Admissions
  - Campus Community
  - Financial Aid
  - Student Financials
  - Student Records
  - Faculty Instructional Activity

Faculty Instructional Activity Module



PHY_FC_FIA_TERM
Table Type: Fact

Business Description:
This table describes measures associated with Faculty Instructional Activity. The granularity is one row per term per class that is included in FIA calculations.

Sourcing and Technical Notes:

This table should be truncated and reloaded for all terms currently being processed; for all other terms, data is frozen.
This table is created from rows in PHY_DM_FIA_CLASS.

For the current term(s) being selected:

```
SELECT
A.FIA_CLASS_SID,
A.CRS_ID,
A.CRS_OFFER_NUM,
A.CLASS_NUM,
A.CLASS_SECT,
A.CATALOG_NUM,
A.TERM,
A.SESS_CD,
A.SUBJECT,
A.SUBJ_DEPT_NAME,
A.SUBJ_DEPT_CD,
A.SUBJ_SCHOOL,
A.SUBJ_UNIV_SCHOOL,
A.CLASS_CAR,
A.CLASS_UNITS_MIN,
A.CLASS_UNITS_MAX,
A.CLASS_CORE_FLG,
A.IR_CLASS_DIVISION
FROM PHY_DM_FIA_CLASS A
WHERE A.TERM IN {terms currently being processed}
```

Partial Design Documentation for The FIA Fact Table

BI Application Demo

What's Next?

Plans for the Future

- Aggregate the Faculty Instructional Activity Data for an Academic Year
- Perform Trend Analysis Across Years and Terms
- Perform Faculty Salary Analysis
- Supply Delaware Data

Questions?

Contacts

- Conrad Vanek
  - Senior Data Architect
  - Information Technology Services
  - Loyola University Chicago
  - E-mail: *cvanek@luc.edu*
- Richard Hurst
  - Director
  - Institutional Research
  - Loyola University Chicago
  - E-mail: *rhurst@luc.edu*
- Ashley Silverburg
  - Chief Data Architect
  - Phytorion, Inc.
  - E-mail: *ashley.silverburg@phytorion.com*