Bringing Credibility to Data:
Data Governance and Institutional Research

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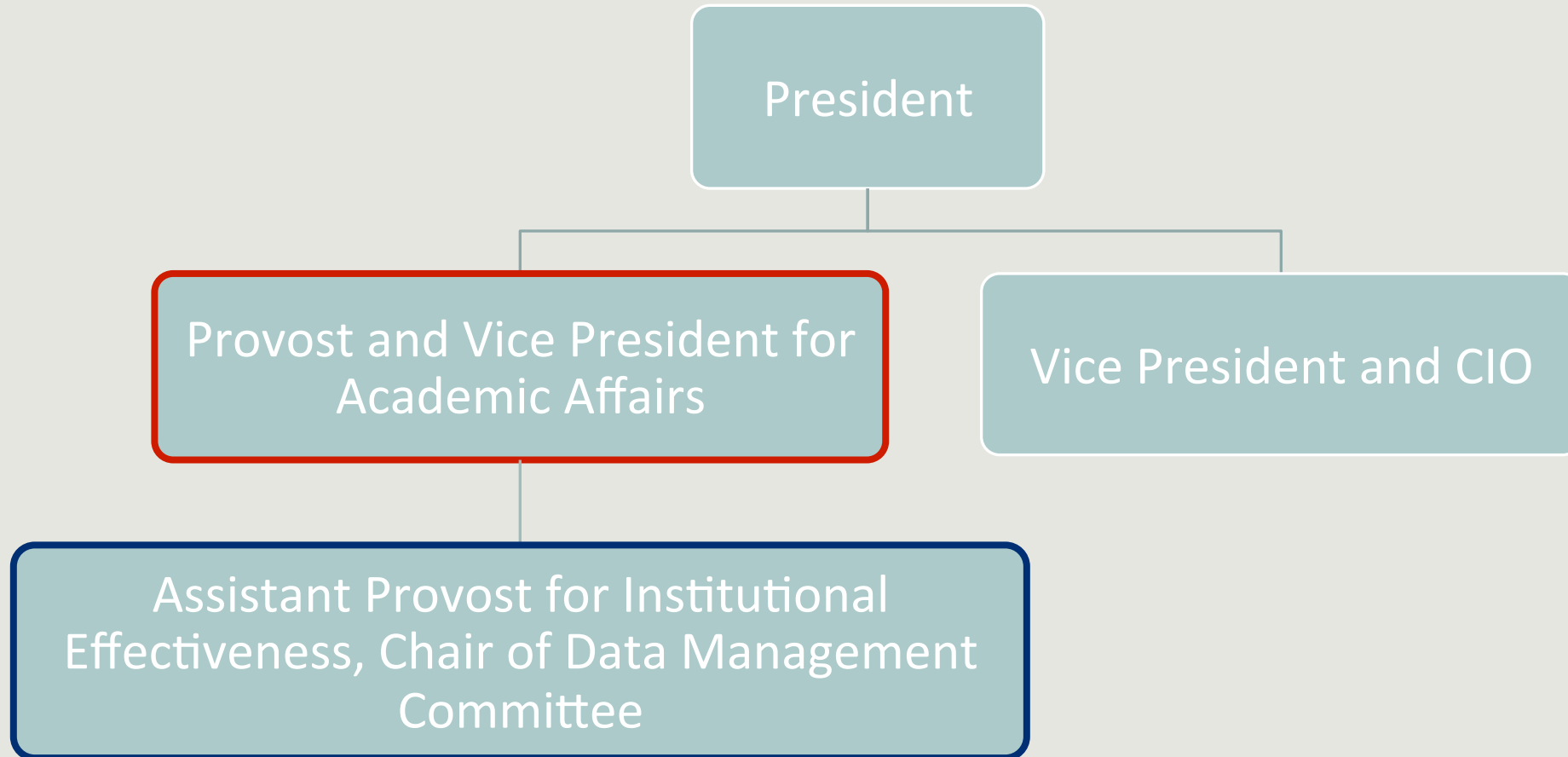Kathryn Flack Potts
Stanford University

Questions

-What is data governance? Why is it important?

-What is the role of IR in data governance?

-How do we implement data governance?

-What are best practices in data governance?

What is data governance? Why is it important?

What is the role of IR in data governance? Where does data governance/IR sit within your institution?

William Knight
Ball State University

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                    │      President      │
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   │ Provost and Vice     │          │ Vice President and   │
   │ President for        │          │ CIO                  │
   │ Academic Affairs     │          │                      │
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   │ Assistant Provost for            │
   │ Institutional Effectiveness,     │
   │ Chair of Data Management         │
   │ Committee                        │
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Ryan Cherland
University of California-Irvine
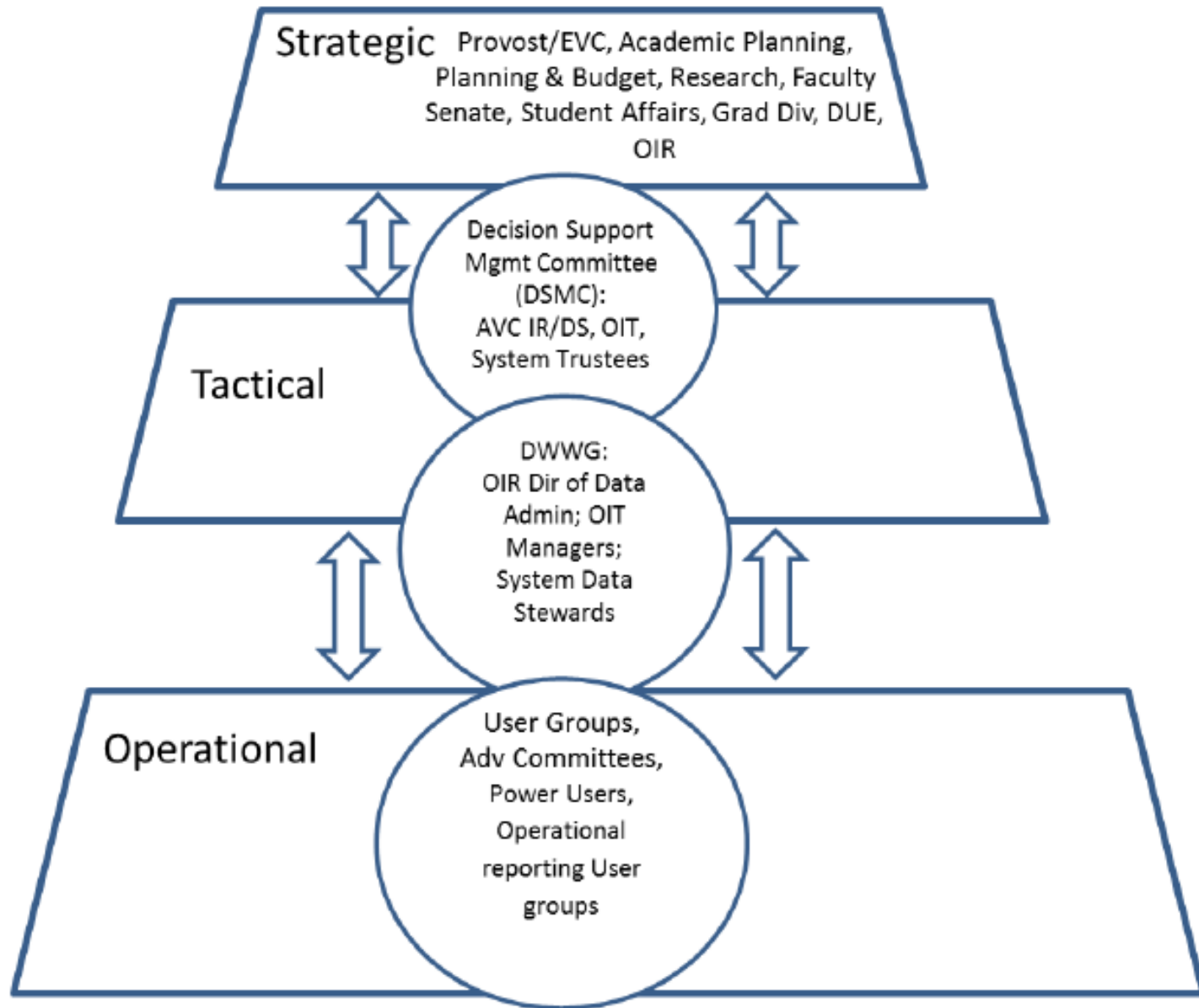
Provost and Executive Vice Chancellor

Vice Chancellor Planning & Budget

Planning & Budget

Academic Budget

Institutional Research & Decision Support

Planning, Space Management, & Real Estate

UNLV Data Governance Structure

How do we implement data governance?

Access

Usage

How do we implement data governance?

Data Definitions

Data Element Dictionary

Browse Data Definitions
by Reporting Elements

⊞ Admissions Census
⊟ Enrollment Census
   ⊞ Census Term Selection
   ⊞ Course Characteristics
   ⊞ Enrollment Characteristics
   ⊟ Measures
      FTE
      Headcount
      SCH
      State-Supported FTE
      State-Supported Headcount
      State-Supported SCH
   ⊞ Student - Transfer
   ⊞ Student Academics (CPP)
   ⊞ Student Characteristics
   ⊞ Student Cohort
   ⊞ Student Demographics
   ⊞ Student Details
   ⊞ Student Test Scores
   ⊞ Student- High School

FTE - State-supported

Full-time equivalent student enrollment funded through the legislatively approved formula for funding instruction.

Post a Comment or Question

Interpretation / Usage Notes

Only students who are currently (as of the data capture date) enrolled or who have dropped but not received a 100% refund are included in FTE figures.

Legislatively defined computation for reporting state-supported enrollment based on level of instruction (i.e., division) and student credit hours. 'State-supported' in this context indicates that the enrollment is funded as part of the legislative formula.

State supported FTE student enrollments are calculated as follows: undergraduate student credits are divided by 15; masters-level and professional credits are divided by 12; and doctoral credits are divided by 9.

Most undergraduate and graduate FTE enrollments are state supported. Exceptions vary from term to term, and include (but are not limited to) professional enrollments in Law and Dental Medicine, Executive MBA, International Program enrollments with a course prefix of 'NSE' or 'IPG', Philippines Nursing, remedial enrollments, and Singapore enrollments

Potential Values

A positive number or 0.

Source Description

FTE - State-supported is computed for enrollments having an Is State-supported value of 'Yes'. The Units Taken are divided by a constant that is based on the Division of the enrollment, as defined in the legislative funding formula. These divisors are as follows: Lower and Upper Division - 15; Masters - 12; and Doctoral - 9.

See Also:

- Units Taken
- Division
- FTE
- Is State Supported

Age

The number of years a person has lived since birth.

Interpretation/Usage Notes

Age is computed as of the date that the data are captured (e.g., the snapshot or census date).

Potential Values

A positive integer, usually less than 100.

Source System: PeopleSoft CSS

Source Description

Age is computed as the number of months between the date of data capture and the Date of Birth (PS_PERSONAL_DATA.BIRTHDATE), divided by 12, disregarding the remainder.

See also:

- Date of Birth

Race/Ethnicity - IPEDS Reporting

A code or description associated with one of the mutually-exclusive IPEDS race/ethnicitiy reporting categories.

Interpretation/Usage Notes

In its central warehouse implementation, Race/Ethnicity - IPEDS Reporting is stored as a five-character code. In reporting implementations, the code may be translated and displayed as a corresponding description.

The National Center for Education Statistics, an agency of the U.S. Department of Education, provides definitions for each of the race/ethnicity codes as part of the Integrated Postsecondary Education Data System. Those definitions may be found at the following web page:

http://nces.ed.gov/ipeds/reic/definitions.asp

Potential Values

Codes and their corresponding descriptions are as follows:

AIAKN - American Indian or Alaska Native
ASIAN - Asian
BLACK - Black or African American
HISPA - Hispanic of any race
PACIF - Native Hawaiian or Other Pacific Islander
NONRS - Non-resident alien
MULTI - Two or more races
WHITE - White
UNKWN - Unknown race and ethnicity

Source System: PeopleSoft CSS

Source Description

Ethnicity assignments for people are operationally stored in the PS_DIVERS_ETHNIC table. One or more entries may be recorded for an individual (identified by EMPLID) in this table, each representing a different ethnicity assignment with the applicable ethnicity codes stored in the ETHNIC_GRP_CD field.

In addition, the IPEDs Ethnicity designation requires determining whether a person is a non-resident alien. Operationally, non-resident aliens are recorded as having an effective VISA permit in the PS_VISA_PMT_DATA table of a type identified by a VISA_PERMIT_CLASS value of "V" (which is found in the related PS_VISA_PERMIT_TBL table). Both tables are effective-dated. Excluded from this list are those people who are already marked as being a US citizen with the existence of a record in the PS_CITIZENSHIP table for their EMPLID values, in which the COUNTRY field is coded 'USA' and the CITIZENSHIP_STATUS field is coded '1'.

The following SQL demonstrates one way to query the transactional PS_VISA_PMT_DATA, PS_VISA_PERMIT_TBL, and PS_CITIZENSHIP tables to retrieve a listing of EMPLID values for individuals who are interpreted as non-resident aliens according to the IPEDS definition. Effective-dated coding is applied for PS_VISA_PMT_DATA and PS_VISA_PERMIT_TBL:

```
SELECT distinct v1.EMPLID
FROM
    (Select *
    from PS_VISA_PMT_DATA x
    Where X.Effdt = (Select Max(X_Ed.Effdt) From Ps_Visa_Pmt_Data X_Ed
                    Where X.Emplid = X_Ed.Emplid
                    And X.Dependent_Id = X_Ed.Dependent_Id
                    And X.Country = X_Ed.Country
                    And X.Visa_Permit_Type = X_Ed.Visa_Permit_Type
                    And X_Ed.Effdt <= SYSDATE )

    ) V1
    INNER JOIN
    (
    Select *
        From Ps_Visa_Permit_Tbl X
        Where Visa_Permit_Class = 'V'
        And X.Effdt =(Select Max(X_Ed.Effdt) From Ps_Visa_Permit_Tbl X_Ed
                    Where X.Country = X_Ed.Country
                    And X.Visa_Permit_Type = X_Ed.Visa_Permit_Type
                    And X_Ed.Effdt <= SYSDATE )
    ) V2 On V1.Country = V2.Country
        And V1.Visa_Permit_Type = V2.Visa_Permit_Type
    WHERE
    -- list only those visa holders who are not already marked as
    -- being US citizens
    V1.Emplid Not In
        (Select Emplid
        From Ps_Citizenship
        Where Country = 'USA' And Citizenship_Status = '1'
        )
```

With Ethnicity codes from the ETHNIC_GRP_CD field in the PS_DIVERS_ETHNIC table, and a determiniation of non-resident alien status, the following logic is applied in the order of the listed steps to determine the appropriate IPEDS race/ethnicity category:
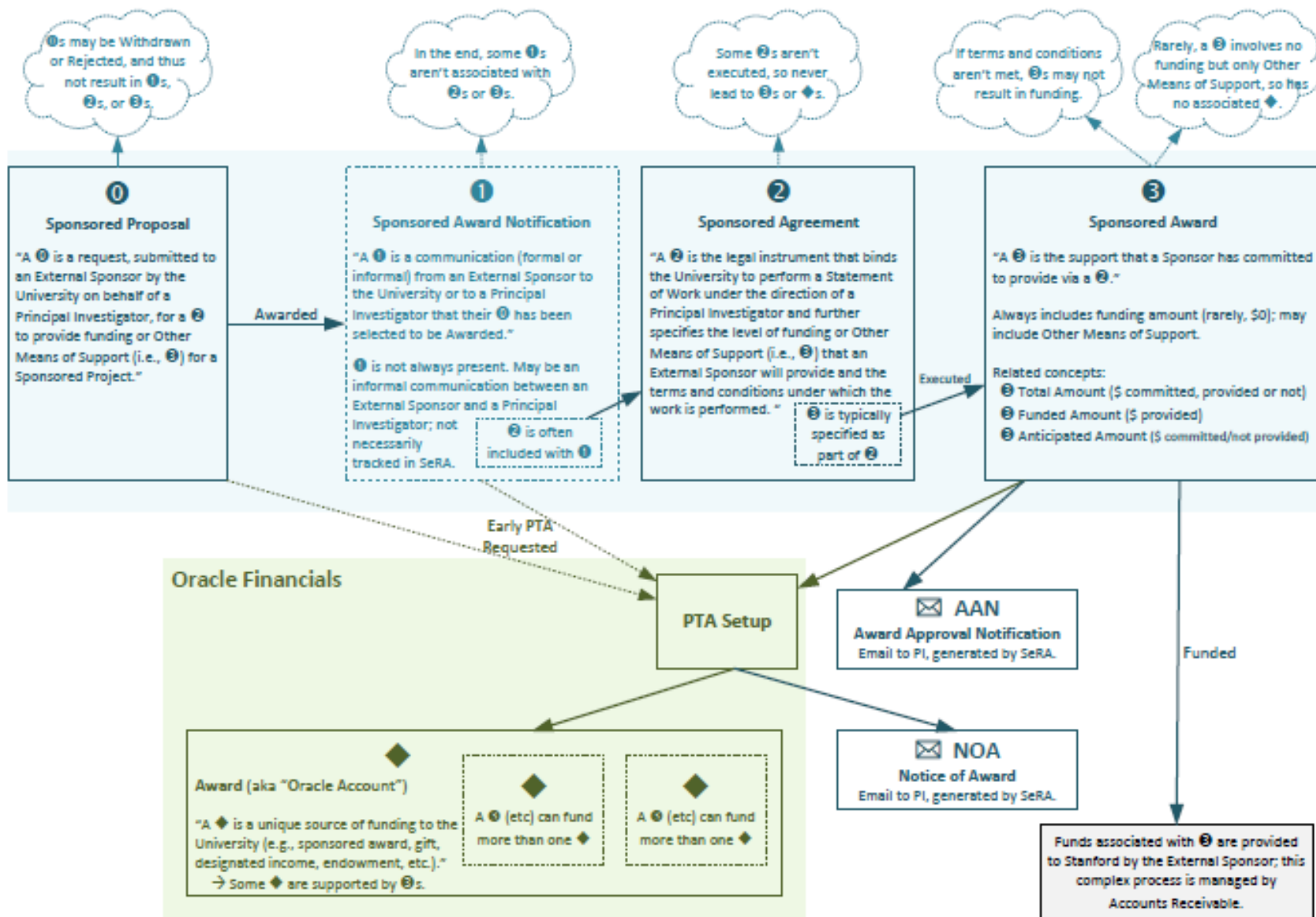
1. If the person is identified as a non-resident alien, the individual is assigned the IPEDS category "Non-resident Alien".

2. If the person is recorded with the Hispanic ethnicity (the 'HISPA' code in the ETHNIC_GRP_CD field) the individual is assigned the IPEDS category "Hispanic". This assignment occurs regardless of other ethnicites for which the person may also be recorded.

3. If the person is recorded with more than one non-Hispanic ethnicity, the individual is assigned the IPEDS category "Two or more races".

4. If the person is recorded with a single ethnicity among the following, the respective IPEDs category is assigned:

   'AIAKN' - "American Indian or Alaska Native"
   'ASIAN' - "Asian"
   'BLACK' - "Black or African American"
   'PACIF' - "Native Hawaiian or Other Pacific Islander"
   'WHITE' - "White"

5. If the person fits none of the above cases, the individual is assigned the IPEDS category "Unknown race and ethnicity".

Sponsored Project Entities

Stanford University Faculty and Related Staff Groupings

For administrative use only.

Please contact Faculty Affairs (Office of the Provost) or IR&DS for any reporting on the Professoriate.

Professoriate
AOAC §4.1.A; FH §1.2.E; SoMFH §1.24, §2.1
"The Faculty of the University consists of the President and the members of the Professoriate."

University Tenure Line (UTL) Professoriate
FH §2.1.B; SoMFH §2.4

"Professor"
"Assoc Professor"
"Asst Professor"

FH §2.6.A
"Asst Prof-Subj To PhD"

"Szego Asst Prof-Subj To PhD"
"Szego Asst Professor"

Medical Center Line (MCL) Professoriate
FH §2.4; SoMFH §1.26, §2.3

"Professor-Med Ctr Line"
"Assoc Prof-Med Ctr Line"
"Asst Prof-Med Ctr Line"

FH §2.3.B
"Senior Fellow"
"Senior Fellow" obs

Non-Tenure Line (NTL) Professoriate
FH §2.2.B; SoMFH §2.5, §2.6

"Professor-Performance"
"Assoc Prof-Performance"

"Professor-Research"
"Assoc Professor-Research"
"Asst Professor-Research"

"Professor-Teaching"
"Assoc Professor-Teaching"

"Professor-Applied Res" obs
"Assoc Prof-Applied Res" obs

"Professor-Clinical"
"Assoc Prof-Clinical" obs

FH §2.3.C
"Center Fellow"

Legend

AOAC: Articles of Organization of the Academic Council
FH: Faculty Handbook
SoMFH: School of Medicine Faculty Handbook
RPH: Research Policy Handbook
SB: Stanford Bulletin

Line Title → References

References and Notes
"PS Line Rank Title"
"Affiliate Line Rank Title"
"PS Name" obs

Titles are as they appear in PeopleSoft.   Obsolete job classification

JCCs are used in PeopleSoft HR. Affiliate Codes are used for non-employee affiliates in the PS Person of Interest module.

(A) Academic Council member *AOAC §4.1.C; FH §1.2.F; SoMFH §1.25, §2.2*
(S) Senior Academic Council member *AOAC §4.1.E; FH §5.2.G*
(I) May instruct courses *FH §1.2.L*
(B) Advisory Board involved in approving appointments *FH §2.7.E(2), §6.II, §9.G*
(D) May serve on doctoral dissertation reading committee *SB § "Doctoral Dissertation Reading Committee"*
(P) May be Principal Investigator or Co-PI *RPH §2.1.1*
(M) Appointed in School of Medicine only *SoMFH §1.24-30*

Other Teaching Staff
FH §1.2.K, §9; SoMFH §1.30, §5
Formerly "Other Teaching Titles"

Consulting Line
FH §9.I.C; SoMFH §5.6

"Consulting Professor"
"Consulting Assoc Prof"
"Consulting Asst Prof"
"Consulting Instructor"

"Consulting Professor"
"Consulting Associate Professor"
"Consulting Assistant Professor"

(by Courtesy) Line
FH §9.I.D

"Professor (by Courtesy)"
"Assoc Prof (by Courtesy)"
"Asst Prof (by Courtesy)"
"Senior Fellow (by Courtesy)"

Acting Line
FH §9.I.A; SoMFH §5.2

"Acting Professor"
"Acting Assoc Prof"
"Acting Asst Prof"
"Acting Instructor (non-Stu)"

"Acting Professor"
"Acting Associate Professor"
"Acting Assistant Professor"

"Teaching Specialist" *FH §9.I.F*

FH §9.I.G
"Professor of the Practice"

Visiting Line
FH §9.I.B; SoMFH §5.4, §5.5

"Visiting Professor"
"Visiting Assoc Prof"
"Visiting Asst Prof"
"Visiting Instructor/Lecturer"

"Visiting Professor"
"Visiting Associate Professor"
"Visiting Assistant Professor"
"Visiting Instructor"

Voluntary Clinical Lines (obs) *FH §9.I.E*

Adjunct Clinical Faculty (ACF) Line
SoMFH §6

"Adjunct Clinical Professor"
"Adjunct Clinical Associate Professor"
"Adjunct Clinical Assistant Professor"
"Adjunct Clinical Instructor"

"Emeritus Adjunct Clinical Professor"
"Emeritus Adjunct Clinical Associate Professor"
"Emeritus Adjunct Clinical Assistant Professor"
"Emeritus Adjunct Clinical Instructor"

Instructor Line
SoMFH §5.3, §7

"Instructor"
"Instructor (Hourly)"; "Instructor - SoM" obs

"Instructor (Affiliated)"

Clinician Educator (CE) Line
SoMFH §1.29, §3.1

SoMFH §3.1.B
CE employees may request PI waivers for clinical trials/clinical research, per SoM Dean

"Clinical Professor"
"Clinical Associate Professor"
"Clinical Assistant Professor"
"Clinical Instructor"

SoMFH §3.1.C
"Clinical Professor (Affiliated)"
"Clinical Associate Professor (Affiliated)"
"Clinical Assistant Professor (Affiliated)"
"Clinical Instructor (Affiliated)"

"Clinical Professor" obs
"Clinical Associate Professor" obs
"Clinical Assistant Professor" obs
"Clinical Instructor" obs

SoMFH §1.29
University Staff Ranks
Precursor to CE line
"Staff Physician" obs

Emeriti
FH §1.2.F, §2.6.G, §5.2.G

Recalled Emeriti *FH §2.6.G*
Retired faculty who participated in the FRIP program will not be eligible for recall to active duty after the 50% FRIP recall. If these faculty have any grants, they must not exceed the duration of the FRIP recall period.

"Professor Emeritus"
"Staff Replacement Teaching"
"Professor Emeritus-Hourly"
"Associate Professor, Emeritus" obs
"Assoc Professor Emeritus" obs
"Asst Professor Emeritus" obs
"Professor Emeritus (Performance)" obs
"Professor (Research) Emeritus" obs
"Professor (Teaching) Emeritus" obs
"Professor Emeritus (Clinical)" obs

"Clinical Professor Emeritus"
"Clinical Assoc Professor Emeritus"

JCCs are persistent for emeriti regardless of recall status. They are for Benefits' use only, and are not true jobs.

"Emeritus Faculty, Acad Council"
"Emeritus Faculty-Med Ctr Line"
President's/Provost's permission required
"Honorary Faculty Emeritus"
"Honorary Staff Emeritus"
"Academic Staff Emeritus"
"Prof Emeritus-Visiting" obs
Retiree: "Staff Emeritus Retiree"

Academic Staff *FH §1.2.K; SoMFH §1.28*

Academic Staff – Research
RPH §I; SoMFH §4.11

"Sr Res Scientist-Basic Life"
"Basic Life Sci Res Assoc"

"Sr Res Scientist-Physical"
"Physical Sci Res Assoc"

"Sr Res Scientist-Clinical"
"Clinical Sci Res Assoc"

"Sr Res Engineer"
"Engineering Res Assoc"

"Sr Res Scholar"
"Social Sci Res Assoc"

"Visiting Sr Res Assoc"
"Visiting Res Assoc"

"Sr Res Assoc/Clinician Educ"
"Res Assoc/Clinician Educ"; "Staff Physician/Research Assoc" obs

Academic Staff – Teaching
FH §6; SoMFH §4

"Sr Lecturer"
"Artist in Residence"

"Sr Lecturer"
"Senior Lecturer (by courtesy)" obs

Fixed term Senior Lecturer appointments are **not** reviewed by the Advisory Board.

"PWR Advanced Lecturer"
"Lecturer"

"Lecturer"
"Academic Staff Teaching"

"Lecturer (by courtesy)" obs

Academic Staff – Libraries
SULAIR 'Personnel Program: Academic Staff – Libraries'

"On September 1, 1976, Stanford University implemented Academic Staff status for librarians. The program was approved by the Provost and President of the University upon recommendation of the University Library Council."
Contact SULAIR Human Resources for details on Academic Staff – Libraries.

(A) Others may also be Academic Council members *AOAC §4.1.C* Includes President, Provost, Academic Secretary, School Deans

(P) Others may also be Principal Investigators *RPH §2.1.2* At the discretion of Department Chairs, School Deans, and the Dean of Research, or Director of SLAC

(D) Others may also be dissertation committee members *SB § "Doctoral Dissertation Reading Committee"* Must hold PhD and be approved by Department Chair

Hoover Senior Fellows
Note: not Professoriate
"Hoover Senior Fellow"
"Hoover Sr Fellow"
FRIP recall
"Hoover Senior Fellow, Emeritus"

Visiting Scholars
RPH §10.5; SoMFH §9
"Visiting Scholar 90 days & greater"
"Visiting Scholar <90 days"

PAVAHCS Ranks
Always associated with another job
"Professor at PAVAHCS"
"Associate Professor at PAVAHCS"
"Assistant Professor at PAVAHCS"

5/4/2015   For current version, see: http://irds.stanford.edu/maps

Degrees Granted by Stanford

Stanford IR&DS
Last updated 3/13/2015

For current version, see:
http://irds.stanford.edu/maps

Undergraduate Degree: An Undergraduate Degree is a Degree certifying completion of a program of academic study above the high school level and at or below the level of a Bachelor's Degree (or foreign equivalent).

Graduate Degree: A Graduate Degree is a Degree certifying completion of a program of academic study above the level of a Bachelor's Degree (or foreign equivalent).

Bachelor's Degree: A Bachelor's Degree is an Undergraduate Degree certifying completion of a program of academic study at the baccalaureate level. At Stanford (and typically, in the U.S.), a Bachelor's Degree requires completing the equivalent of 180 quarter-units of work above the high school level. A Bachelor's Degree typically requires attainment of foundational subject-area knowledge in a chosen degree program, as well as a breadth of knowledge and a range of basic literacies or competencies across subject areas.

Master's Degree: A Master's Degree is a Graduate Degree certifying completion of a program of academic study above the Bachelor's Degree level. Master's Degrees may vary widely in terms of units and degree requirements/objectives. At Stanford (and typically, in the U.S.), a Master's Degree typically requires completing the equivalent of 45-90 quarter-units. A program of study leading to a Master's Degree is often course-based and may require a thesis. This program of study generally involves in-depth study of a particular field, increasing students' ability to engage in a profession or conduct scholarship in the field.

Doctoral Degree: A Doctoral Degree is a Graduate Degree certifying completion of a program of academic study above the Bachelor's Degree level. At Stanford (and typically, in the U.S.), a Doctoral Degree typically requires the equivalent of 3 or more years of full-time study. Each Doctoral Degree can be categorized as a Professional Degree, which prepares holders to practice a profession at a high level, or a Academic Degree, which typically involves a requirement for substantial original work in the field.

Academic Degree: An Academic Degree is a Degree certifying completion of a program of academic study with a focus on theory and/or research; preparation for practice in a specific profession is generally not emphasized.

BA   AB
BS
BAS

MA   AM
MS   MAT
Eng   EdS
MFA
MPP
MLS   JM
JSM
LLM
MLA

PhD   EdD
DMA
JSD

Professional Degree: A Professional Degree is a Degree certifying completion of a program of academic study which is intended to prepare the holder for practice in a specific profession.
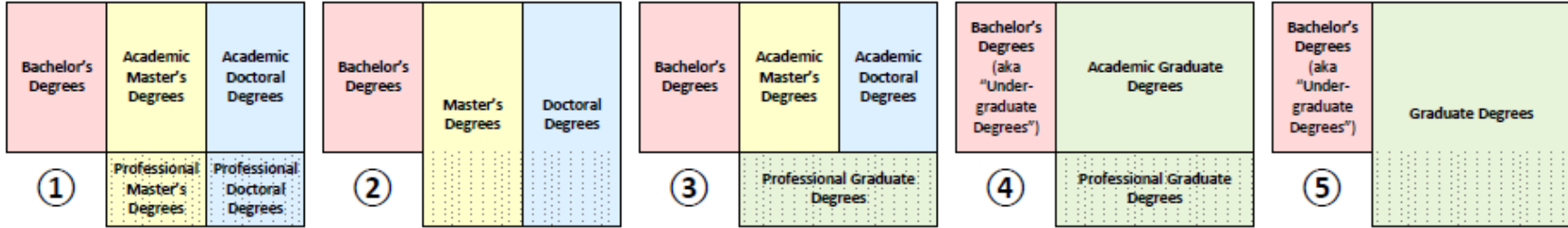
(none offered at Stanford)

MBA

MD
JD

Legend:
- Engineering
- Earth Science
- Humanities & Sciences
- Education
- Business
- Medicine
- Law
- Continuing Studies

Active degree
Inactive degree

Note: This set of degrees (MBA, MD, JD) is commonly categorized as "Professional" in internal reporting. Other sets of degrees may be categorized as "Professional" in other reporting.

Common reporting groupings, for Stanford degrees

①
Bachelor's Degrees	Academic Master's Degrees	Academic Doctoral Degrees
	Professional Master's Degrees	Professional Doctoral Degrees

②
Bachelor's Degrees	Master's Degrees	Doctoral Degrees

③
Bachelor's Degrees	Academic Master's Degrees	Academic Doctoral Degrees
	Professional Graduate Degrees	

④
Bachelor's Degrees (aka "Undergraduate Degrees")	Academic Graduate Degrees
	Professional Graduate Degrees

⑤
Bachelor's Degrees (aka "Undergraduate Degrees")	Graduate Degrees

How do we implement data governance?

Validation

Data Quality

How do we implement data governance?

Integration

Best Practices

1. The data our systems generate are resources, and it is the University's resources; it shouldn't be considered "my data."

2. When putting together Data Governance groups, get the groups the right size and involve the right level of authority.

3. Match the right people and the roles in the group appropriately. Many members might be more consultative, others would have a primary role of providing definitions and business rules. Not everyone has the same role with every element.

4. Take it a piece (or subject area at a time) and build the data dictionary incrementally.

Best Practices

5. Be transparent and make data dictionary results and determinations accessible – hopefully within the reporting and BI tools where possible.

6. Revisit and revise to adjust to changes in landscape and environment; work to ease transitions to new reporting requirements (e.g., IPEDS ethnicity categories as a recent example).

7. Involve security and the development of security roles early in the guidance development.

8. Include data quality assurance and cleanup as part of the process.

9. Discourage recoding rework – cleanup at the source prior to a census point.

10. Know that Data Governance never ends -- it should just be a part of the work.

Best Practices

BUY A LAMINATOR!

This is much about people and relationships as much as it is about data and technology.

Data governance is not a one size fits all model.

Sometimes we focus more on the technology and software rather than the issues. The software becomes the excuse for not grappling with the issue. Software is not an easy fix.

That being said…shiny does add a little bit to our credibility (upper admins). Not starting at a spreadsheet helps.

Questions

??????

Links and Resources

UNLV Office of Decision Support
- https://ir.unlv.edu/iap/

DG @ Stanford
- http://web.stanford.edu/dept/pres-provost/cgi-bin/dg/wordpress/
- Data Stewardship Maps http://web.stanford.edu/dept/pres-provost/irds/maps/

Higher Education Data Warehousing Forum (HEDW)
- http://hedw.org/

Data Management Association International
- http://www.dama.org/
- http://www.dama.org/content/body-knowledge