Rethinking data requests via on-demand tools

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Tufts University Office of Institutional Research

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About Tufts OIR

• Tufts University
  • Private research university
  • Undergraduate, graduate, and professional students
  • Approximately 11,500 students

• Office of Institutional Research
  • Under the Provost’s Office
  • 10 staff members
Primary Functions

• Core OIR Activities:
  • Survey research
  • Fact Book
  • Data requests and short-term projects
  • Business intelligence and data integrity
  • Mandated reporting & accreditation
  • University-level undertakings
  • Service to the university
  • Knowledge dissemination and service to the profession
Demand for Data

- Increases in demand for data has changed the scope of our work
  - Survey research demand remains high
  - Large increase in need for university-wide dashboards and on-demand data
  - New clients in financial-related divisions

- Requests for information often last-minute and urgent
Data Requests

- No formal data request system – requests usually come in via e-mail, both to the Director and to individual staff

- Have a rotating Data Request List to distribute requests

- Around 150 ad-hoc data requests logged each year

- Additional 5-10 large “data projects” also done each year
The Old Approach

• Once project is assigned to a staff member, timeframe is dependent on client’s needs and staff member’s workload

• Staff members’ experience levels vary

• Documentation inconsistent across projects

• Multiple copies/versions of data sources being made

• Duplication of efforts high within the office
A New Approach

- Reviewed historical project data
  - Many internal requests asking for similar data
  - Identified most-frequently requested metrics

- OIR needed to be proactive; reactive wasn’t working
Tableau

- Interactive data visualization tool

- Capacity to create dynamic, user-friendly reports

- With the Tufts Tableau Server, end-users can access dashboards securely through a web browser

- Use of Tableau rapidly expanding across the university so familiarity with the software is increasing
Data Sources

- In order to proactively respond to data requests, we needed easily accessible, universal data sources.

- Tableau data sources are being developed with the following features:
  - Built-in calculations
  - Clean data
  - Daily refreshes
  - Easy to understand variable names
  - Data dictionary
Dashboard Design

• Critical that self-service tools be easy to use

• Consistent “look and feel” across dashboards

• Footnotes and other data notes available for all reports

• Reports are designed to be printed or saved as PDF versions if needed
Fall Enrollment Calculator

To calculate enrollment, please select your parameters from the following dropdown menus. Once you have finished making your selections, click on the arrow to “Calculate Enrollment.” You will then be taken to your custom enrollment report where you will have the capability of splitting enrollment by various subcategories.

By default, the dropdown menus are set to include all enrolled students as of the most recent fall term. The official fall enrollment reporting date is October 15th of the selected fall term. By definition, an enrolled student is active/not-withdrawn at Tufts as of October 15th of the selected fall term and enrolled in at least one course for credit.

[Image of the Fall Enrollment Calculator interface with dropdown menus for selecting an academic term, degree-seeking status, campus(es), school/division(s), student level(s), and degree type(s).]

https://provost.tufts.edu/institutionalresearch/enrollment/
Fall 2017 Enrollment Report

Select a primary grouping category (optional):
No Grouping

Select a second grouping category (optional):
No Grouping

Select a third grouping category (optional):
No Grouping

<table>
<thead>
<tr>
<th></th>
<th>Full-Time</th>
<th>Part-Time</th>
<th>Total Headcount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2017</td>
<td>10,598</td>
<td>851</td>
<td>11,449</td>
</tr>
<tr>
<td>Grand Total</td>
<td>10,598</td>
<td>851</td>
<td>11,449</td>
</tr>
</tbody>
</table>

An enrolled student is active/not-withdrawn at Tufts as of October 15th of the selected fall term and enrolled in at least one course for credit. Students studying abroad in a non-Tufts program are not included in this report.

Report Filters:
Term: Fall 2017
Degree-seeking Status: All (both degree seeking and non-degree seeking)
School(s) Included: Arts & Sciences - Liberal Arts, Arts & Sciences - Grad, Arts & Sciences - SMFA, School of Engineering - Undergrad, School of Engineering - Grad, Cummings School of Veterinary Medicine, Fletcher, Friedman, Sackler, School of Dental Medicine, School of Medicine (MD students), School of Medicine (PHPD students), College of Special Studies
Student Level(s) Included: Undergraduate, Graduate
Degree Type(s) Included: Bachelors, Masters, Doctorate-Research (PhD), Doctorate-Professional (DVM, DMD, MD), Doctorate-Other (OTD, DrPH), Certificate, Post-Baccalaureate, Non-Degree
Data Dictionary

Glossary

Select a word/phrase to define:

- Headcount

**Headcount**
An unduplicated count of individual students
# AS&E Undergraduate Enrollment (Fall 2018)

**Undergraduate or Graduate Enrollment?**
- AS&E Undergraduate Enrollment

**Select a Term:**
- Fall 2018

<table>
<thead>
<tr>
<th></th>
<th>First Time and Continuing Students</th>
<th>Enrolled students entering as transfers in Fall 2018</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On Campus</td>
<td>Tufts Study Abroad</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Full-Time</td>
<td>Part-Time</td>
<td>Full-Time</td>
</tr>
<tr>
<td>A&amp;S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>7</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>Sophomore</td>
<td>1,030</td>
<td>64</td>
<td>83</td>
</tr>
<tr>
<td>Junior</td>
<td>840</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>Senior</td>
<td>937</td>
<td>96</td>
<td>5</td>
</tr>
<tr>
<td>5th Year</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,819</strong></td>
<td><strong>282</strong></td>
<td><strong>91</strong></td>
</tr>
</tbody>
</table>
Program Review Dashboards

Program Review Dashboards
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Enrollment Reports

Enrollment Data
This dashboard includes a table of student headcounts by term. Headcount is broken down by full-time or part-time status. The table can be filtered by department/program, term, and academic plans. The table can be further broken down by various sub-categories.

Enrollment Trends
This dashboard shows trends in student headcounts over time. The dashboard can be filtered by department/program, term, and academic plans and can be further broken down by various sub-categories.

Enrollment Comparison
This dashboard shows trends in student headcounts over time broken down by all AS&E Majors. Majors from the selected department/program will be highlighted in red.

GO TO REPORT

GO TO REPORT

GO TO REPORT
<table>
<thead>
<tr>
<th></th>
<th>Full-Time</th>
<th>Part-Time</th>
<th>Total Headcount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors</td>
<td>Undergrad</td>
<td>479</td>
<td>6</td>
</tr>
<tr>
<td>Doctorate-Research (PhD)</td>
<td>Graduate</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Masters</td>
<td>Graduate</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Spring 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors</td>
<td>Undergrad</td>
<td>512</td>
<td>9</td>
</tr>
<tr>
<td>Doctorate-Research (PhD)</td>
<td>Graduate</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Masters</td>
<td>Graduate</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Spring 2015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors</td>
<td>Undergrad</td>
<td>536</td>
<td>19</td>
</tr>
<tr>
<td>Doctorate-Research (PhD)</td>
<td>Graduate</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>Masters</td>
<td>Graduate</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Spring 2016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors</td>
<td>Undergrad</td>
<td>530</td>
<td>14</td>
</tr>
<tr>
<td>Doctorate-Research (PhD)</td>
<td>Graduate</td>
<td>41</td>
<td>2</td>
</tr>
<tr>
<td>Masters</td>
<td>Graduate</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Minor</td>
<td>Undergrad</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
Enrollment Comparison by Undergraduate Major

<table>
<thead>
<tr>
<th></th>
<th>Spring 2013</th>
<th>Spring 2014</th>
<th>Spring 2015</th>
<th>Spring 2016</th>
<th>Spring 2017</th>
<th>Spring 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Headcount</td>
<td>209</td>
<td>351</td>
<td>462</td>
<td>508</td>
<td>590</td>
<td>572</td>
</tr>
<tr>
<td>% change from prior year</td>
<td>67.9%</td>
<td>31.6%</td>
<td>10.0%</td>
<td>16.1%</td>
<td>-3.1%</td>
<td></td>
</tr>
<tr>
<td>% change from first year</td>
<td>0.0%</td>
<td>67.9%</td>
<td>121.1%</td>
<td>143.1%</td>
<td>182.3%</td>
<td>173.7%</td>
</tr>
</tbody>
</table>

Unduplicated headcount of students enrolled in an AS&E undergraduate major within the listed department/programs. Includes first, second, and third majors. Enrolled students include those students who are active in their program, not withdrawn, and have an academic load greater than no units. Students studying in non-Tufts Study Abroad programs are excluded from the enrollment counts.
Admissions Dashboard

Slate Graduate Admissions Dashboards
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**Historical Admissions Trends**
This dashboard displays historical admissions trends by school. Only data from completed admissions rounds are displayed. The view can be filtered by degree type and academic plan. Users can select from five admissions metrics: total applications, total accepted applications, total enrolling applicants, admit rate, and yield.

**Total Submitted Applications**
The top view in this dashboard displays the running total of submitted Slate applications for the current academic year to the prior academic year. A year covers the time period between September 1 and August 31. The total applications is based on the date the application was submitted in Slate. The view can be filtered by degree type, academic plan and application status.

The bottom view in this dashboard displays a break down of total submitted applications by month. Selecting a month in the top line chart will filter this view to a specific month. The data can be further broken down by academic plan, degree type, and admissions round.

**Total Applications by Admissions Round**
This dashboard displays the total applications to-date, by admissions round. The selected admissions year will be compared to the prior admissions year. The view can be filtered by degree type, academic plan and admissions round. By selecting on a specific round in the view, a chart will appear at the bottom of the dashboard. This chart breaks down the application data for the specific round by academic plan.
Historical Admissions Trends

Select a school: 

Filter by degree type: (All)

Select display metric: Applications (#)

Filter by academic plan: (All)

Select a breakout group: Degree type

View by term or academic year: Group by Academic Year

Applications (#) by Degree type

Refreshed from data warehouse on 10/27/2018 5:19:28 AM

For internal use only. This chart shows the Applications (#) for the years AY 2015-16 to AY 2018-19. Numbers in this report may differ from official/published admissions statistics and may not reflect Tufts's total admissions information. Only applications with a status of "Decided" and a valid decision code in Slate are included. See "Notes" page for additional school-specific exclusions.

Admissions offices may use this form to provide additional context for their data:

Tufts Office of Institutional Research
Running Total of Submitted Applications*

Current Academic Year vs. Prior Academic Year
Refreshed from data warehouse on 10/27/2018 5:19:28 AM

Select a school:

Filter by application status:
(All)

Filter by degree type:
(All)

Filter by academic plan:
(All)

*This chart compares the running total of Slate applications for the current academic year to the prior academic year. A year covers the time period between September 1 and August 31. Applications with a status of “awaiting submission” have been excluded. The total applications is based on the date the application was submitted in Slate. See “Notes” page for additional school-specific exclusions.
Total Applications by Admissions Round*
2018 Admissions Round vs 2017 Admissions Round
Refreshed from data warehouse on 10/27/2018 5:19:25 AM

Select a school: [Dropdown]
Select an admissions year: [Dropdown] 2018
Select a comparison timeframe: [Dropdown] Total apps from complete prior admissions ...

Filter by degree type: [Dropdown] (All)
Filter by academic plan: [Dropdown] (All)
Filter by admissions round: [Dropdown] (All)

- 2018 Admissions Round
- 2017 Admissions Round

<table>
<thead>
<tr>
<th>Certificate - Fall</th>
<th>Certificate - Spring</th>
<th>Fall</th>
<th>OTD Entry Level - Summer</th>
<th>Spring</th>
</tr>
</thead>
</table>

*This chart compares Tufts's total applications from the 2018 admissions round to the total applications from the prior year's admission round. When viewing the most current active round, selecting a comparison timeframe will allow you to view total applications for the complete prior round or total applications in the prior round as of October 27, 2017. The selected year refers to the 2018 admissions cycle. Applications with a status of "awaiting submission" have been excluded. A * indicates that there are fewer total applications in the 2018 admissions round than in the prior admissions round. State data in the Tufts data warehouse is current as of yesterday. See "Notes" page for additional school-specific exclusions.

Selecting a bar on the above chart will provide additional details below about the round selected.

Admissions offices may use this form to provide additional context for their data:
Reception

• “This is so awesome”

• “…it is incredibly helpful and intuitive”

• “This is really amazing and is going to transform the way we work. I really look forward to playing with it!”

• “You have no idea how much access to these dashboards will free up time for all of us.”

• “It's going to be so helpful to us- we have been trying to track this information without a formal system in place. [Our administrator] has been doing lots of manual counts!”
Future Projects

• Expanding/improving existing reports
  • University-wide real-time enrollment reporting
  • Incorporating additional data sources into Admissions Dashboard
  • Adding more survey data into Program Review Dashboard
  • Connecting to new faculty information system for Deans’ Data Hubs

• External completions reporting tool

• Integrated enrollment/finance reporting mechanism in collaboration with the newly formed Enrollment Council

• Modernizing Fact Book