# Sauter Award Nomination

## Project Title

Instructional Planning & Administration (IPA)

## Submitter

Jeremy Phillips, IT Director, Division of Social Sciences, UC Davis

jeremy@ucdavis.edu

530-341-3567

## Names of project leader(s) and team members

Christopher Thielen, Lead Application Developer

Obada Kadri, Application Developer

Lloyd Wheeler, Application Developer

Meshell Louderman, Project Sponsor and Business Lead

Jeremy Phillips, Technical Lead

## Project narrative

Course scheduling is a complex set of business processes and highly varied across departments, even within the same college. The business processes include:

- faculty and administrative staff collaborating to decide which courses will be offered in a given year,
- collection of faculty teaching preferences and assignment of courses to individual faculty members,
- collaborating with the Office of the University Registrar (Registrar) to schedule specific times and rooms for courses,
- collection of availability and faculty preferences for teaching assistants, readers, and other instructional support personnel and assignment of those personnel to courses,
- budgeting for instructional support, and
- analytics of enrollment demand and trends to drive the scheduling process and ensure that the needs of our students are met.

At UC Davis, these processes are centered in individual academic departments though some aspects are dictated by the Registrar and our BANNER-based student information system (SIS). As a consequence of both this highly distributed model and true differences in the needs of departments, departments implement these processes very differently.

One single, large department tracked the number of emails between their primary course scheduler, individual faculty and instructional support personnel, and the Registrar's office at more than 1,000 per

quarter —meaning more than 3,000 in a single year. That easily represents over $10k in faculty and staff time per year for one department and significantly more when applied across campus.

The Administrative Managers (ADMAN) group, composed of department and cluster managers from across the UC Davis campus, identified the course planning, scheduling, and budgeting processes as unnecessarily time consuming, inconsistent, and most in need of automation.

The departments within the Division of Social Sciences also identified the instructional planning processes as a high priority for business process automation.

Recognizing both the local and wider campus need, the Division of Social Sciences application development team took on the challenge.

The team cast a wide net through the Administrative Application Development Initiative (AADI), a collaboration between ADMAN various distributed IT groups across UC Davis, to create a steering committee with representatives from departments in each of our colleges, divisions, and schools—and the relevant central administrative units.

This model enabled the team to build a tool that is now being used by more than 10 departments across a wide swath of UC Davis and that is expected to be used by many more departments for the next scheduling cycle, starting in fall 2016.

Working with the steering committee, the project team developed high-level goals for the project:

- Allow the process stakeholders to manage and facilitate the instructional planning process in a more streamlined, structured, and consistent way to ensure optimal planning activities and effective utilization of campus resources.
- Integrate into other campus source systems to minimize manual data entry, data quality issues, and lack of informational needs being met.
- Strategically meet the needs of the Faculty and Student constituents within the instructional planning process while empowering the Academic/Administrative Coordinator (Administrative Coordinator) and supporting campus unit process owners to administer the process in the most efficient way.

The tool that has been built has met these goals by:

- Streamlining the instructional planning process by dramatically reduced the number of manual, email-based interactions between faculty and staff participants in the scheduling process.
- Improving the quality of scheduling decisions by providing timely current and historical enrollment data in an easy to understand format, and reduced error rates due to manual data entry.
- Simplifying the interactions needed from faculty and instructional support personnel to support the planning and scheduling process.

Representatives from departments that have used the system have provided very positive feedback on the system and the development team:

"They have taken the time to understand our needs and make adjustments to the system accordingly. They have been creative in finding ways to meet our needs while not making the system too clunky and cumbersome to use. They are amazing in that they've been able to accommodate so many different needs and wants from a diverse pool of customers. Their hard work definitely needs to be acknowledged." -Meshell Louderman, Management Services Officer for the Department of Computer Science in the College of Engineering

"I'd like to emphasize the simplicity of design that makes IPA extremely easy for new users to jump on board and use the application. It's goal is to take the complicated process of instructional planning from end to end and input has been sought from end users at every stage of development (of course, we're not done yet). The development team has been communicative with and responsive to the steering committee throughout the entire process – it's been a real pleasure to work with them!" -Tracy Lade, Chief Adminsitrative Officer for the Department of Physics in the College of Letters & Science

The project was first initiated in late 2013, with much of 2014 used to gather requirements from many different departments and stakeholders. Development began in earnest in late 2014 with the first modules released for beta testing in fall 2015 in time to be used for the annual scheduling process. Subsequent modules were delivered "just in time" to support the business processes through an agile development methodology. IPA will be generally released for campus-wide use in fall 2016.

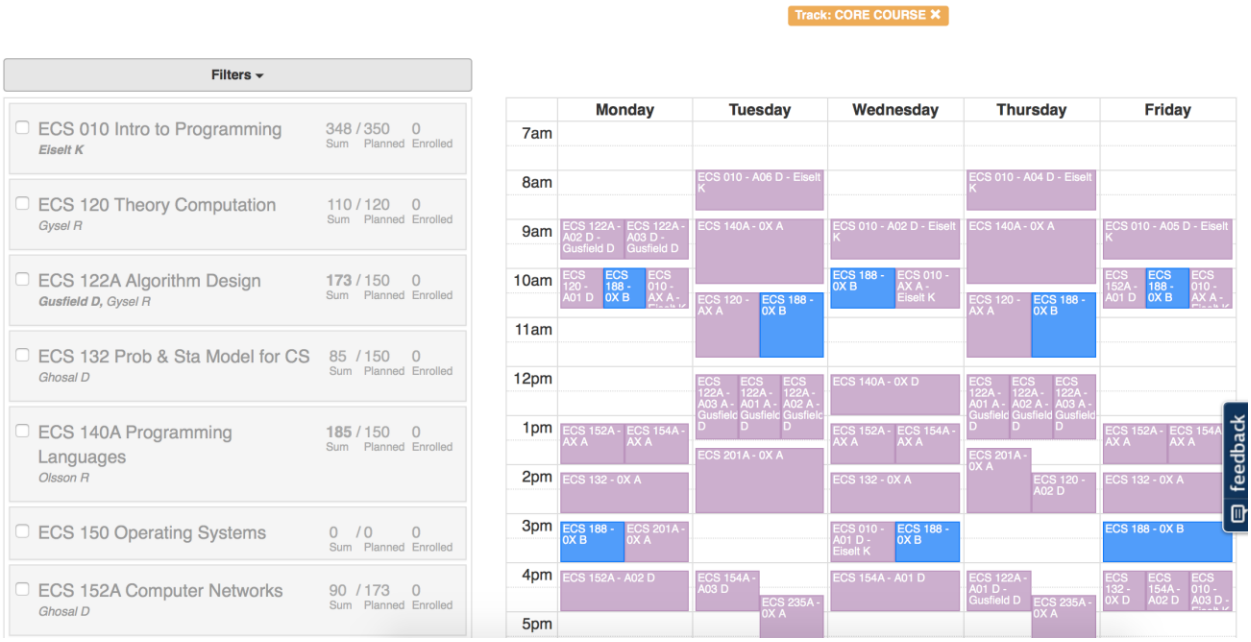
With the expectation that IPA will ultimately become the campus standard for instructional planning and given the Java foundations of the BANNER student information system, the development team chose to use Java and the Spring framework. This choice ensures that IPA can be supported as an enterprise-wide application—and opens the intriguing possibility of making IPA available commercially to other BANNER campuses.

Additional information about the UC Davis Instructional Planning & Administration tool can be found at the the project website:

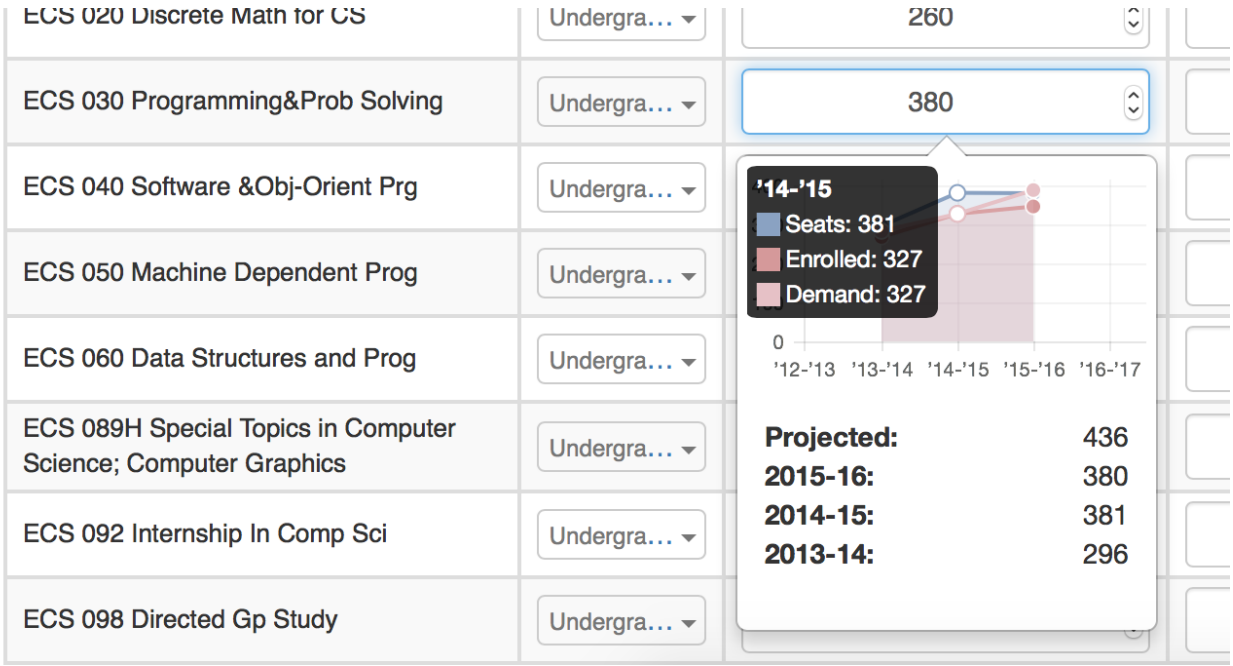
https://ipa.ucdavis.edu/

## Screenshots

Activity view, showing the detailed course schedule for a single quarter. The view includes planned and current enrollments, multiple course activities (e.g., lecture, discussion, and lab), assigned instructors, etc. Users can also add arbitrary tags to courses to enable advanced filtering, such as "core courses" or separate tracks within a major.




Section of Annual View, showing historical enrollment data to guide departmental decisions on how many seats to offer.




Instructor Teaching Call view, allowing an individual instructor to indicate which courses they would like to teach or to indicate sabbaticals, course buyouts, etc. Instructors can also indicate days and times that they are not available for each quarter.

# Teaching Call 2016-2017: Computer Science

| Summer Session 1 | Summer Session 2 | Fall Quarter | Winter Quarter | Spring Quarter |
|---|---|---|---|---|
| Add | Add | 1. ECS 030 | 1. ECS 193A | 1. ECS 173 |
| | | 2. ECS 015 | 2. ECS 163 | 2. ECS 165B |
| | | Add | 3. ECS 140B | Add |
| | | | 4. Buyout | |
| | | | Add | |

# Unavailabilities

Available Unavailable