Academic Plan for Enrollment Report: Tier 3 - Curriculum, Pedagogy, and Space

Orfalea College of Business

The Orfalea College of Business is organized into six academic areas: Accounting; Economics; Finance; Industrial Technology and Packaging; Marketing; and Management, HR and Information Systems. At the undergraduate level, the college offers three degree programs in Business Administration, Economics, and Industrial Technology & Packaging. We also have three graduate degree programs—Master of Business Administration (accelerated, traditional, dual program with engineering, and a joint engineering management program), Master of Science in Accounting (taxation and financial accounting), and Master of Science in Economics. We hope to launch two new specialized MS programs in Business Analytics and Packaging Value Chain.

The long term vision of the Orfalea College of Business is to become the undisputed leader in experiential business education. This goal provides a guiding principle for the college in addressing the questions on curriculum, pedagogy, and learning space in this report. The Orfalea College of Business envisions that we will continue to maintain our polytechnic identity with an emphasis on experiential learning (Learn by Doing) and student success, similar to the principles highlighted in Vision 2022. The remaining of this document draws upon these values and principles and summarizes our future plan for teaching, learning, scholarship, and learning environments.

Section 1. Teaching, Learning, and Scholarship

For the academic programs you expect to offer and the students you expect to serve:

- What effective approaches to teaching and learning are emerging in your field and related interdisciplinary areas?
- How should Learn by Doing incorporate new learning needs, opportunities and technologies (in your field, etc.)?
- How does the teacher-scholar model fit (again in your field, etc.)?

The OCOB faculty has always strived to foster innovation and creativity in their approaches to teaching and learning. While rigorous and hands-on curricula will continue to be the quintessential part of our polytechnic identity, the conventional lecture-activity is now being enhanced by other activities as our faculty members experiment with interactive and dynamic modes of delivery. Flipped and hybrid models are becoming more and more common in our course offerings. For example, our faculty has employed flipped models and classroom technologies such as audience response systems (clickers), simulations, tablets, online apps to engage students in collaborative activities and class discussions. In academic disciplines such as Information Systems and Industrial Technology & Packaging, lab-based instruction will continue to be a vital part of the curriculum. The majority of courses in these disciplines have been taught in a lab environment. The proposed MS in Packaging Value Chain will be a hybrid (online lectures + labs) program targeted at working professionals in the US and abroad.

The following are some of the emerging ideas among the OCOB faculty with potentially high impacts on teaching and learning. Student work has become more team-based and less confined to physical space. Team-based collaboration is facilitated by information technologies, while instructors become more of a class facilitator. In addition, students are more actively involved in their learning activities as well as helping their peers to learn. For example, in our foundational Principles of Marketing course, we assign
Senior Marketing students as peer mentors to facilitate collaborative learning activities. Findings in the literature acknowledge the impact of peer mentoring on learning (Gormally, Brickman, Hallar, & Armstrong, 2011; Roscoe & Chi, 2007). Peer Marketing Mentors, along with the faculty team, provide a high-impact experience that yields a best-in-class foundation in marketing. With this format, students utilize Learn-by-Doing to address authentic business issues and to develop actionable marketing solutions.

Active, problem-based learning has also been emphasized and will continue to be an integral part of our curriculum. In the Finance discipline, graduates are expected to provide guidance in managing financial risks and assess the performance of stocks, bonds, real estate and other types of investments. As a result, emerging approaches to teaching and learning in this area incorporate extensive use of global financial and economic data in a decision making process. Similarly, in Economics, emerging approaches to learning emphasize statistical methods and experimental design while taking advantage of the widespread availability of market data. The more intensive courses in econometrics and data analysis will continue to be offered at the graduate level in the MS Economics program. The undergraduate programs will continue to be aligned with the graduate programs to ensure that our graduates have the skills needed for industry by having more hands-on experience working with data as undergraduates as well as by having the preparation required to continue their studies in the graduate programs. In the Accounting area, teaching analytical skills, as opposed to rules and pattern memorization, has become a significant part of the teaching philosophy. Because the repetitive functions in accounting systems are now handled by computer software, accountants need to recognize and understand the complexity of underlying financial transactions in order to add value and solve accounting-related problems. For example, before accountants can report the impact of a derivative that is used as a hedge (e.g., put option), they must understand investments in stocks as well as options. Information Technology and data analytics will continue to increase in importance for the business world. Organizations have access to vast quantities of information, and desire employees who know how to process and present that information. The trend is expected to continue, as data visualization, business intelligence, and social media dominate the landscape over the next few decades. Information Systems skills will be required of all managers and business leaders, not just IT professionals. We expect that these technology skills will play a larger role in the OCOb curricula in the future as the trend toward unstructured problems continues to increase.

Moreover, to stay true to our ‘Learn by Doing’ philosophy, we need to continue to provide opportunities for students to interact with industry practitioners. Presently, we accomplish this through activities within curricula (e.g., senior projects, term projects sponsored by companies) and extra-curriculum activities such as in-person visits by executives and experts from the industry, field trips, company visits, service learning, and internships. Examples of Learn-by-Doing co-curricular activities include the Volunteer Income Tax Assistance (VITA) program and the Low Income Taxpayer Clinic (LITC) administered by the Accounting area, where students provide professional services to clients from the local community similar to the services provided by professional accounting firms. The Center for Innovation and Entrepreneurship recently launched a new ‘Hatchery’ program to help foster student-led entrepreneurship initiatives through a combination on mentorship, weekly workshops, startup assignments. The program is available for all Cal Poly students who want to gain hands-on experience in launching a company. We need to continue to make available these and other co-curricular opportunities for student leadership, clubs and organizations, and other career development activities. Through our Executive in Residence program, we regularly host executives and experts from the industry who give lectures in classrooms and hold roundtable discussions with faculty and students. Looking into the future, we can leverage information technologies (e.g., Skype, Podcast, etc.) to bridge the distance between our campus and industry partners. For example, guest speakers could be invited to hold virtual lectures or seminars with
minimal geographic restrictions, while students could participate either by being physically present on campus or by ‘dialing-in’ from home.

Data are ubiquitous in business today. In today’s increasingly competitive marketplace, organizations need individuals with the requisite skills to make informed decisions. This has created what some believe is the biggest imbalance of demand and supply ever of people with data analytics skills in the workforce. According to Hal Varian (Chief Economist at Google), “The ability to take data — to be able to understand it, to process it, to extract value from it, to visualize it, to communicate it, is going to be a hugely important skill in the next decades...”. The proposed MS program in Business Analytics aims to capitalize on the workforce demands by creating an interdisciplinary program that encompasses economics and all areas of business. It will offer a holistic approach to data analytics in which alongside the necessary quantitative tools, students will be equipped to identify key business problems, translate them into relevant data questions and tasks and, after working through the analytics, apply their insights to suggest concrete business actions. In addition, selected courses from the MS in Business Analytics programs will be used as electives in the MBA, MS programs in Economics, Accounting, and Packaging Value Chain.

Besides technical skills and knowledge, our college places a great emphasis on career-readiness and meta skills (e.g., leadership, collaboration, and professional communication). For example, in the Management & HR and Entrepreneurship concentrations, students are trained as “business generalists” and broad thinkers. They will need to be able to work across disciplines, break down the proverbial ‘silos’, and integrate knowledge to solve big problems. In Marketing whose curriculum emphasizes hands-on, collaborative approaches, students refine their meta skills in building interpersonal leadership, communication, and the ability to work in a team structure. In Industrial Technology & Packaging, students are trained to clearly articulate and ‘sell’ their ideas. The one-year MS program in Accounting enables graduates to meet the academic requirements for licensure as Certified Public Accountants in California, and thus making them attractive to top accounting firms. In the MS program in Business Analytics, we will work with business partners to provide real world problems, proposed models, and data sets to be reviewed and analyzed by our students as part of a capstone project. This mutually beneficial arrangement will give students an invaluable opportunity to engage with a real business problem in order to produce something of value to the business partner.

It is uniquely important to OCOB students to learn to work in teams with a deep understanding of diverse and multicultural workforce of the future. Mutually beneficial partnerships with universities in Europe, South America and Asia will be actively explored in order to increase the cultural competency of our students. These partnerships will include student exchange, study abroad and other immersive experiences for students. Our curricula will continue to emphasize readily applicable skills such as leadership, organizational design, development and change, global business management, and negotiation. It has been documented that while science, technology, engineering and mathematics (STEM) graduates are increasingly important in the workforce, they often lack the basic business knowledge to be successful. We are looking into transitioning into a STEM focused MBA program where STEM students are trained in soft management skills like organizational behavior, leadership, strategy, etc. The OCOB is also launching a new initiative for business professionalism training for students. The training program aims at helping students with career preparation and development including resume preparation, interpersonal leadership and communication, job interview coaching, salary negotiation, and business culture and etiquette.

The Teacher-Scholar model fits well with the OCOB’s ongoing and future strategic initiatives. Our faculty members are encouraged to remain active in scholarly activities in the discipline that they teach.
The growth in scientific research, information technology, general knowledge and consumer demand will create a need for research that applies basic knowledge into specific business disciplines and industries. This is especially true in the areas of applied technology, market research, financial analysis, economic analysis, and packaging science. These are examples of practical, applied research that can be incorporated into classroom to enhance our student learning. The Teacher-Scholar model would require a significant interaction between instructional faculty and industry globally. Students doing senior and special projects will work directly with faculty on their research projects. The opportunities for faculty to interact with the industry will remain critical. As mentioned above, the abundance of data and data analytics will also create new opportunities in applied research for both faculty and students.


Section 2. Learning Environments

What learning environments should Cal Poly develop or modify to accommodate (1) new modes of teaching and learning, (2) Learn by Doing, and (3) the teacher-scholar model in the future? Please respond in terms of the qualitative characteristics of the facilities and other spaces (including technology) critical to your programs and students:

• Formal, scheduled or organized instruction,
• Informal student learning outside the classroom or laboratory, and
• The teacher-scholar model
• Pedagogy/learning modes (e.g., delivery, engaged learning, undergraduate research, community service, internships/field placements, study away, study abroad, technology, session structure)
• Space, infrastructure and information systems implications

The increasingly diverse approaches to learning and teaching have a number of implications on learning space, infrastructure and technology requirements. As discussed in the previous section, learning activities often extend outside the classroom (e.g., flipped mode, service learning). Our facilities and infrastructure need to accommodate the wide variety of instructional modes and learning activities. The OCOB has recently launched a capital campaign for renovation of our buildings. Many of our existing classrooms were designed to serve very specific functions based on pedagogical decisions from years past. To help us make a successful transition to new approaches to learning and teaching, we are engaging our faculty, staff, students, and other constituents in discussions about the learning environments for the future. The remaining of this section summarizes some of the ideas that were derived from the input from our constituents.

Reasonably sized lecture classrooms will continue to be an integral part of our instructional activities. However, these traditional classrooms need to be supplemented with new technologies to help facilitate other modes of teaching and learning. For example, wireless network connectivity that enables instructors and students to communicate and present ideas through their mobile devices (e.g., Apple TV) would enrich team-based collaboration and discussions during class.
Reliable wireless connections need to be available throughout campus. Students and instructors will be able to convert any learning space into a ‘computer lab’ as more and more students will bring their own device. This will minimize the need for physical computer rooms that can then be dedicated to a few courses that require highly specialized technologies. Examples of these labs with specialized technologies that can be used in OCOB classes include Business Analytics and Enterprise Resource Planning (ERP) labs as well as finance labs that can simulate a trading room with the ability to follow stock, bonds, commodities, and currency exchange markets around the world. In a similar set up, social listening labs equipped with large displays that track social media analytics data via a licensed software application (e.g., Salesforce Marketing Cloud, Adobe Marketing Cloud, Microsoft Social Listening, or Brandwatch) would enable our faculty to tap into real-time market information to teach marketing research and communications. Moreover, reliable, high-speed network connections in classrooms will allow students to access latest financial and market data as well as research databases (e.g., in Accounting, Finance, and Economics), which is particularly important for upper-division and graduate courses. Other instructional technologies and computing resources that need to be made readily available for instruction include mobile devices, clickers, instructional games, simulations, online apps, and other specialized software. In addition to flexible functionality, we need a learning environment with integrated technologies that have low complexity, require minimal training, do not distract from the learning activities, and allow for different physical capabilities of the users (e.g., fully meet the ADA requirements).

To better accommodate hands-on, collaborative learning activities, we also need a facility that allows for flexible classroom configurations. Both lab and lecture activities need a learning space that can be easily modified and repurposed as technology, teaching, and research requirements will continue to rapidly change. Flexible learning spaces will allow for mixed modes of instruction where instructors can transition from lecture to activity, and vice versa, during the same session. Currently, students in the Entrepreneurship, Marketing, and Consumer Packaging Solutions concentrations take courses in a classroom with this setting. In the planning stage of our building renovation, the preliminary design includes two large flexible classrooms (~2,000 square feet each) to support these hands-on, team-based collaborative learning activities. The two classrooms could also be partitioned into smaller rooms for either break-out sessions or smaller classes.

As we increasingly adopt the hybrid and flipped models of instruction, we need an improved infrastructure that seamlessly transcends boundaries between physical and virtual learning spaces. In particular, we need classrooms and learning spaces that incorporate online video/audio resources and online course management systems as well as have a capability for real-time broadcasts and lecture capture. Some of our courses are already being taught online where students come to physical classrooms only periodically. At least a portion of these classes is administered virtually through an online course management system such as PolyLearn. In addition, we need to take advantage of online conferencing capability to reach remote participants. As discussed above, it continues to be crucial that our faculty and students remain closely connected with the industry. Online conferencing technologies can help reduce geographical restrictions and allow faculty, students, and industry partners to participate in the learning activities from remote locations. Guest speakers can give lectures or lead a workshop through videoconferences, while students are physically present in the classroom or participate virtually from elsewhere.

Learning activities also often take place outside of the classroom. Our building renovation plan will incorporate open and social spaces (e.g., in the courtyard outdoor, conference rooms, student lounge, and indoor interactive spaces) where students can work in teams, collaborate with the faculty and staff, and interact with industry professionals. An example of these activities is the Hatchery program recently
launched by the Center for Innovation and Entrepreneurship where dedicated office spaces are provided for teams of students to collaborate and work on their start-up ideas. Moreover, our plan also includes converting an open computer lab from a room with rows of computer workstations into a space with a focus on social interaction (e.g., open seating in the middle of the room with computers located on the side walls). Among the purposes of these learning spaces are to both encourage creativity (e.g., Maker Space) and provide practical career development (e.g., small rooms for job interviews and interview rehearsals). Besides these learning spaces, our campus also needs to accommodate other types of co-curricular activities such as VITA, LITC, Center for Innovation and Entrepreneurship (e.g., Hot House, Incubator, Elevator Pitch Competition), and student clubs/organizations. We also need other facilities on campus to support student activities such as career fairs, resume workshops, and social events with prospective students, parents, and business organizations.

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