BAX 461

Course name: Practicum Initiation
Instructor: Sanjay Saigal (ssaigal@ucdavis.edu)
Time: 1:40 - 4:30 PM, Saturdays
Days (Fall 2019): Sep 28; Oct 5, 12, 19, 26; Nov 2, 9, 16, 23; Dec 7

Catalog Description

Skill development around opportunity assessment, research methods, partner engagement, project management, team performance, needs elicitation, and oral and written communication.

Background

The practicum is the backbone of the MSBA, spanning the program. The goal of the practicum is to master analytics delivery by successfully applying quantitative methods and business knowledge to a real problem at a real organization. Working in a team, each student devotes, in an average week, one to two days on project-work directed by an MSBA Industry Partner (MIP).

Coursework associated with the practicum occurs over a three seminar sequence:

Quarter	BAX	Title	Focus
Fall	461	Practicum Initiation	*Preparation*: Team, scope, problem/opportunity identification, and engagement
Winter	462	Practicum Elaboration	*Definition and Insights*: Solution attributes, data management, initial modeling, and initial analysis
Spring	463	Practicum Analysis & Implementation	*Insights & Delivery*: Technical analysis and recommendation, value identification and communication, and deployment

Students begin their practicum by gaining knowledge and developing comprehension: framing and scoping the opportunity and its payoffs, familiarizing themselves with data, setting up an effective team structure and working protocols, and developing engagement with the MIP. Typical deliverables for the MIP include a data assessment and a statement of work (SOW). In parallel, in the BAX 461 course, the focus is on:
- understanding the nature of the opportunity,
- exploring the application(s), the business sector and the MIP organization,
- establishing a relationship with the MIP,
- producing as a team, and
- obtaining MIP approval for a course of action, via an SOW and/or project plan.

In the winter quarter, the project's focus shifts to application and analysis: understanding the business and technical requirement, and doing the modeling, computation and documentation. Typical BAX 462 deliverables include interim progress and recommendation reports created in

that process.

Typically, the practicum goals in the spring quarter are to demonstrate synthesis and evaluation: finalizing recommendations, communicating them to the MIP, and deploying the solution. MIP expectations of deliverables vary by project, but typically include functioning software, data architectures, statistical models and algorithms, dashboards, metrics, and decision support tools. BAX 463 activities are similar to 462, with the addition of artifacts related to the handover, such as user manuals, white papers, etc.

Note, all classroom "deliverables" in the BAX 46x seminar sequence - class activities, assignments, and the occasional homework - *are designed to strengthen student skills* so that they can do the best possible job on their project.

Action Labels

Students in 46x seminars are expected to develop and exhibit four competencies of a Business Analytics (BAx) consultant:

1. Work productively as part of a project team (*#teamwork)*
2. Engage constructively with the client, in our case, the MIP (*#engagement*)
3. Produce valuable business insight that combines analytical results with qualitative study and secondary research (*#insight*)
4. Create measurable and sustainable client impact (*#impact*)

MSBA graduate possessing these competencies can represent themselves - in their LinkedIn profile, a job application, an interview, the fabled chance encounter in an elevator - using what recruiting professionals call "action labels": An MSBA graduate should be able to think of herself or himself as

> a trained data scientist (*#datascientist*) with a verifiable record of accomplishment (*#achiever*), comfortable mediating between business and technology functions (*#communicator*) in the global professional setting (*#professional*).

Each student should work on getting to a point of comfort applying the action labels *#datascientist, #achiever, #communicator* and *#professional* to themselves.

BAX 461 Learning Goals

Working in a seminar setting, each individual is expected to demonstrate progress on the learning goals listed below. Each learning goal, in turn, impacts action labels and competencies.

| # | Learning goal | Primary effect on | |
		Action label	Competence
1	Communicate effectively, verbally and in writing, within	#communicator	#teamwork

	the project team, in the classroom, with MIP staff, and with other MSBA stakeholders, incorporating the diversity of their interests and abilities		#engagement
2	Apply understanding of group dynamics, knowledge of oneself, and an appreciation of demographic and cultural diversity to accomplish group tasks	#achiever	#teamwork #impact
3	Actively foster a team and class culture of dependability, supportiveness, citizenship, and ethical behavior	#professional	#teamwork
4	Transform difficult novel, uncertain or ambiguous situations into opportunities to learn and grow by recognizing, assessing, and positively responding to unexpected developments	#achiever	#insight #impact
5	Demonstrate proficiency in collecting, managing and analyzing data	#datascientist	#insight
6	Conduct high-quality research using controlled vocabulary, leveraging all available sources, assessing source quality, and respecting ethical concerns	#datascientist	#insight #impact

Progress on action label and competency development will be assessed via quizzes and assignments. Progress on project goals will also be assessed by

Textbook and Readings

There is no textbook for the course.

BAX 46x is a series of seminars that use discussion-based active learning. While *short* lectures do occur, discussion and activities are the foundation of learning. Pre-class readings (typically recent relevant articles from research journals or the popular press) are assigned via Canvas, before class. Students should expect to be assessed on pre-class reading through discussion, in-class exercises and quizzes.

Most readings can be accessed through the UC Davis library VPN. Occasionally, e.g., if we're analyzing a business case from Harvard Business Publishing, a purchase cost comparable to a cup of Starbucks coffee may need to be incurred.

Course structure

Students will participate through readings, lectures and activities (in and out of class) on two axes of learning: the BAx consulting process, and the specifics of the team project.

Class sessions will consist primarily of short assessment quizzes, discussions based on pre-class readings or previous assignments, short "lectures", and possibly industry speaker-led discussions. Occasionally, students and teams will have the opportunity to showcase their skill

development through presentations graded on action labels and core competencies.

Peer criticism and feedback are the sine qua non of professional teamwork. Thus in the "clinical", i.e., practice-oriented, setting of the practicum, peer-to-peer learning predominates. Lessons learned from each others' mistakes, especially observed fresh, can be instructive in a way that lectures or books cannot. Students will be expected to attentively observe and respectfully critique the experiences of other teams during structured activities and class conversation. This expectation can initially create discomfort, sometimes from the belief that the professor is the only qualified teacher, or from apprehension about conflict or loss of reputation. With practice, the discomfort alleviates. Actual learning occurs!

In addition to class sessions, each team will participate in a weekly project update "huddle" with the course instructor via Zoom web conference. Teams will document their task backlog and progress by the evening prior to the meeting.

Grading

Course grades will be based on individual responses on quizzes and activities, written assignments, team presentations, and pre-huddle updates. There will be no examinations. Canvas will contain raw scores for each scored element, which will be normalized when final grades are calculated.

BAX 46x courses are designed to build practice skills, not, as the archaic idiom puts it, "to separate the men from the boys". That said, it *is* possible to fail the course simply by being absent from class during scored quizzes and activities.

Assignments

Scored assignments include quizzes, blog writing, group exercises, long-form reports, and presentations explicitly created for the course. Each assignment is described below, along with its generic scoring rubric. Graders (the instructor and/or TA) will be looking for attributes that illustrate action labels and core competencies with clarity, originality and salience. Due dates are provided in the section at the end of this syllabus; last-minute changes are disseminated via Slack and Canvas.

Weekly Assessment Polls: 15% (individual)

To receive this portion of the credit, the student must answer at least eight of ten in-class assessment polls. Polls are *administered at any point in the class meeting* and scored on the triage scheme below. Students with seven or fewer completed assessment polls will receive zero points for 10% of the course grade. There is no provision for making up missed polls.

Score	Rubric
2	Verifiably correct or accurate answer
0	Obviously incorrect answer

1	Any other answer

Blogs: 12% (individual)

Each student will publish four blogs, each at least 400 words. In effect, each student will *individually* write four articles on *instructor-specified* topics related to the practicum. The intent of the exercise is to develop professional written communication. The rubric is shown below.

Blogs published on msba19-20.blogspot.com (this URL may be changed) are only accessible to MSBA students, faculty or staff.

Due to the individual-focused learning goal (and grading scheme), collaboration with another person should go no further than broad conceptualization. The writing - in form *and* content - is expected to be entirely the student's. **Evidence of plagiarism or similar infringement of the Academic Code of Conduct will be taken very seriously.**

Score	Quality	Rubric
3	Outstanding	● Contains a thoughtful and readable treatment of the topic ● Narrative is well-structured, with a beginning, middle, and end ● Headline is appropriate to the content ● Opening lines make clear what's coming ● Embedded links point to useful and relevant material ● Graphics are used to break up blocks of text
2	Competent	● Missing a few attributes of an outstanding blog
1	Submitted	● Off-topic, unreadable or otherwise not meaningful
0	Missing	● Not submitted by due date

Class Exercises: 20% (individual and team)

Individual and team quizzes and exercises will be assigned during class sessions. The goal of class exercises is to solidify learnings and document outcomes from in-class activities. For instance, individual quizzes may be assigned to assess comprehension after a guest speaker. Another example: each team may be asked to outline elements of a specific MIP-facing activity. Typical class exercises will be assigned one to five points.

Opportunity Assessment Report: 10% (team)

The opportunity assessment report (OAR) contains the key value-related findings usually associated with business plans. The goal is to describe the "so whats?" of the project, e.g.,

● What are the business conditions and the context of the project?
● Why does the MIP - as an organization - care about the project? Who are the most

involved stakeholders, and what are their motivations?

- What is the likely business impact of the anticipated outcomes?
- How will the results be judged? Is the MIP trying to increase revenues? Manage costs? Improve customer service? When expected improvements are qualitative - e.g., attempting a digital transformation of the company - how will they be measured?
- What are the potential workflow and organizational implications of the project? How will life change for the MIP if the project delivers? Will it have an impact beyond the company, into the business sector?

The OAR, expected to contain between 1000 and 3000 words (not counting charts, tables and figures) should be uploaded to Canvas *as a PDF*. Supporting documents (e.g., spreadsheets) are allowed, but the deliverable is the PDF report. OARs will be graded according to the following rubric:

Score	Quality	Rubric
5	Outstanding	Describes the "so whats?" at a sophisticated and thoughtful level, demonstrating an understanding of the MIP perspective. Rare, if any, deficiencies in structuring, expression, or English usage. Reflects in-depth engagement with the topic.
4	Competent	Describes the "so whats?" at a serviceable level, without a concomitant in-depth reflection of impact from the MIP perspective. Deficiencies in structuring, expression, or English usage. (Note that language shortcomings can often be addressed by deliberate editorial effort.)
3	Limited	A minimal description of the context and desired project outcomes. Displays limited understanding of the MIP organization, the sector in which it operates, the impact of favorable results, and/or organizational implications of success.
1	Submitted	Either not salient to the assignment described in the syllabus, or incoherently written.
0	Missing	Not submitted by the due date.

Presentation - Opportunity Assessment Report: 5% (team)

Each team will formally present their OAR findings in class. The goal is to clearly and persuasively communicate project goals and expected impact on the MIP. Each presentation will last no more than 5 minutes, with an additional 2 minutes allocated for Q&A. Scores will be reduced for going over the time limit. Presentations will be graded according to the following rubric:

Score	Quality	Rubric
5	Persuasive	- Conveys that the team understands the project goals and likely

		implications for the MIP. ● Generates confidence in the team's ability to research not just the specific application, but also the target business and business sector. ● Impact is concisely and, as far as possible, quantitatively, estimated. ● The mechanics of the presentation - computer setup, "viewgraph engineering", speaker transitions, etc. - are smooth, suggesting that the presentation has been rehearsed, perhaps more than once.
4	Informative	● Conveys the message that the team understands the project goals, but the implications for the MIP are unconvincing. ● There is evidence that the team has begun its research, but the findings are shallow, possibly marginally relevant. ● Impact is estimated, but it's an area of improvement ● There are problems with one or more mechanics of the presentation - computer setup, "viewgraph engineering", speaker transitions, etc. ● It is likely that the presentation has not been well-rehearsed.
3	Limited	● Conveys the message that the team understands the project goals, but the implications for the MIP are unconvincing. ● There is little evidence of relevant research. ● Impacts estimation remains a work in progress. ● There are multiple problems with the mechanics of the presentation - computer setup, "viewgraph engineering", speaker transitions, etc. ● It is likely that the presentation has not been rehearsed.
2	Minimal	● The presentation is delivered, but that's about the most supportive thing that can be said of it.
0	Missing	● Presentation is not delivered

Quarter Summary: 10% (team)

Each team will submit a short (expected to be less than 1,500 words) summary of the team's Practicum efforts and achievements over the quarter, containing:

- *History*: key project events and deliverables completed
- *Team*: team organization and responsibilities
- *Accountability*: table of tasks completed in quarter, with effort allocated (in % terms) between team members
- *End-state*: work in process and task backlog at quarter-end
- *Downsides*: known risks and bottlenecks
- *Outlook*: project status and plan for remaining project horizon

Note that Quarter Summary scores will not be based directly on how the project is going. The goal of the exercise is to thoughtfully, concisely, and accurately describe the project environment, with grading according to the following rubric:

Score	Quality	Rubric
5	Outstanding	Contains the above-specified level of detail expressed in a well thought out manner. The reader is persuaded that the team is working well together, that the relationship with the MIP is alive and constructive, and that next steps and risks are well-understood.
4	Competent	Contains the required detail, but potentially lacks one or two necessary attributes of an outstanding summary.
3	Limited	Contains the required detail, but potentially lacks multiple necessary attributes of an outstanding summary.
1	Submitted	Missing the required information, or incoherently written.
0	Missing	Not submitted by the due date.

Presentation - Quarter Summary: 10% (team)

On the last class session, each team will formally present their activity summary and project status. The goal is to clearly communicate the work done and the prospect for the coming quarter. Each presentation will last no more than 5 minutes, with an additional 1-2 minutes allocated for Q&A. Presentations will be scored according to the following rubric:

Score	Quality	Rubric
5	Persuasive	A well-rehearsed presentation convinces the listener that the team is working well together, that the relationship with the MIP is alive and constructive, and that the risks as well as next steps are well-understood.
4	Informative	The presentation contains persuasive elements, but the message and/or the delivery contain weaknesses fixable by additional preparation.
3	Limited	The content and/or the delivery contain structural deficiencies that draw attention from the message.
2	Minimal	The presentation is delivered, but that's about the most supportive thing that can be said of it.
0	Missing	Presentation is not delivered

Project Progress: 10% (team)

In consultation with the Business Executive Mentors, the instructor will score each team's progress and accomplishment relative to the project's potential for success. Thus, for instance, a project that begins with a very well-defined scope will be given relatively lighter credit for delivering a strong SOW to the MIP. Conversely, a team working with very complex datasets will be given more credit for the data assessment's higher degree of difficulty. The team(s) with the best performance will receive a full score. Other teams will be scored off that benchmark.

Individual Engagement: 8% (individual)

Learning occurs fully when students engage fully in class activities, contribute their fair share to team output, and deport themselves professionally. Failure to demonstrate full professional engagement by, e.g., not responding to request for input in class or remaining passive during discussions, arriving late or leaving early, attending to your laptop or phone at inopportune times, not meeting project deliverable expectations, low peer evaluation scores from team members, or occasioning criticism from MIP staff, will lead to point deductions from the default full score. (See the following section on Behavioral Norms for more detail.)

Behavioral Norms

To enhance the seminar learning environment, students are expected to act in a professional manner. Professional behavior includes adhering to course requirements, being respectful of other class participants, and *actively* contributing to course-related discussions and activities *inside and outside class*. Specifically:

1. Students are expected to abide by the University of California-Davis code of conduct found at http://sja.ucdavis.edu/cac.html.
2. Doubts or questions should be directly to the instructor as soon as feasible, preferably via Slack. In addition to the course channel (#bax461-3), each practicum group will have a dedicated channel for project-related communications (e.g., #pr-afw). Students are expected to use good judgement to separate individual vs team vs class related queries.
3. Phones and laptops are not to be used in class *except when explicitly allowed* for quizzes or other activities. If an urgent call needs to be answered, the student should unobtrusively step out of the classroom and return as soon as possible.
4. Research shows that writing (rather than typing) is highly correlated with memory and learning. Class notes are expected to be made on paper.
5. Web-conferences with the instructor (weekly huddles or ad hoc meetings) are a routine practice. Participants in pre-scheduled web meets are expected to join from a quiet location using video and audio, i.e., to be full and equal contributors.
6. Unless discussed with the instructor *before the due date*, there will be no exceptions to assignment deadlines. An assignment submitted up to 24 hours late will lose 25% of the score. Assignments submitted more than 24 hours past deadline will get a zero score.
7. Grades heavily depend on team output, which can be reduced by free-riding and social loafing. Each member of practicum teams will be asked to evaluate every other member on attendance at group meetings, effort, meeting deadlines, responsibility, proactivity and quality of work.

Course Calendar

Key dates	Event	Note
20190928	First day of class	Project introduction and discussion of expectations
20191007	Blogpost 1	Short blogpost on a specified topic (detail on Canvas)
20191023	Written OAR due	Uploaded to Canvas
20191026	OAR presentations	In-class team presentations
20191104	Blogpost 2	Short blogpost on a specified topic (detail on Canvas)
20191118	Blogpost 3	Short blogpost on a specified topic (detail on Canvas)
20191122	Confirm MIP presentation	MIP presentation of quarter-end project status needs to occur before the last day of classes, in-person or via Zoom
20191125	Blogpost 4	Short blogpost on a specified topic (detail on Canvas)
20191204	Written quarter summary due	Submitted on Canvas
20191207	Quarter summary presentations	Fall quarter activity summary presentations to class; last session of Fall quarter