**DSA 5900 PROFESSIONAL PRACTICE**

**Catalog Description:**
This course focuses on real-world application of the skills taught in DSA core courses. This course allows a student to earn credit toward the degree requirements by completing an intense practicum experience. (Fall, Spring, Summer)

**Credit Hours:** 1-4 hours, may be repeated not to exceed 4 total hours

**Textbook:** None required

**Faculty Coordinator:** Randa Shehab

**Faculty Advisor:** Faculty member approved by the Faculty Coordinator

**Office Hours:** Summer office hours are by appointment. Email Nicola Manos at nicola@ou.edu or Dr. Shehab directly at rlshehab@ou.edu for an appointment.

**Prerequisites:** Completed enrollment in DSA 5103, DSA 5113, DSA 4413, DSA 5005 and DSA 4513. Graduate standing and approval from the Faculty Coordinator.

**Course Management:** Canvas course management system will be used for all course materials and for submissions of all assignments canvas.ou.edu.

**Eligibility:**
The student must identify a practicum sponsor and secure a practicum topic. The student is encouraged to consult with the faculty coordinator and the practicum sponsor prior to preparing a practicum proposal. The student should submit the proposal to the course Canvas site no later than the first week of the semester of practicum enrollment. The faculty coordinator will evaluate the proposal to determine if this practicum meets the requirements for credit. The proposal should identify the practicum sponsor, the objectives and plan for practicum, and the deliverables as agreed upon by the practicum sponsor and the faculty coordinator.

To meet the practicum requirements, the set of activities that the student expects to complete during the practicum must contain high-level Data Science and Analytics work, such that the sum of the experiences for the practicum is equivalent to what a student would learn in an equivalently credited, graduate-level course.

In addition, the practicum sponsor overseeing the practicum must agree in writing to prepare two evaluations/progress reports over the course of the experience. The reports can be in the form of an email or letter. The student must provide the DSA office updates on their progress via email each month.

*The proposal is viewed as a contractually obligated statement of work for the practicum project. It may not be changed without the approval of the faculty coordinator.*
Course Description:

As a part of the course requirements, the student must complete the following:

1. **Proposal:** The proposal must be submitted to the DSA office no later than the end of the first week of the semester of enrollment. It must be typewritten and include the following sections:
   
   a. **Introduction.** A brief description of the practicum project, including a discussion of the research/business objectives of the sponsor and how this project will contribute to those goals.
   
   b. **Objectives.** A clear and concise statement of the problem that the practicum will address. This section should include the technical project objectives, as well as the student’s individual learning objectives.
   
   c. **Plan.** A discussion of the process and methods that will be applied to address the problem and achieve the objectives. The student responsibilities for each project should be clearly identified along with the skills from the DSA core courses they intend to apply to the project.
   
   d. **Deliverables.** The deliverables or outcomes of the plan should be described here. This should include an interpretation of the technical deliverables in the context of the problem objectives. How has the problem been resolved? How have your objectives added value?
   
   e. **Schedule.** A timetable for completion of the practicum project. Clearly identify the project milestones that will ensure sufficient progress. This should also include how many credit hours the practicum is for, if it is a paid internship, un-paid internship or research project, and who will be supervising the work (include name, contact and title).

   *The proposal must be submitted to the Canvas site no later than the end of the first week of the semester.*

2. **Final Report:** The report must be submitted in Canvas 48 hours prior to the presentation. This report will typically be 15-25 pages long and must be typewritten. Review the Final Report Guidelines before preparing your report. The typewritten report must contain the same sections as the proposal, but with updated and expanded information as appropriate to describing the outcomes.
   
   a. **Introduction.** Background information on the problem context. What is the organization for which you are working? What are the key goals of the organization? Include a discussion of the research/business objectives of the sponsor and how this project will contribute to those goals.
   
   b. **Objectives.** A clear and concise statement of the problem that the practicum will address. What is the specific nature of the problem you are solving? What are the specific objectives that you are trying to accomplish? How will you know you have solved the problem/accomplished these objectives?
   
   c. **Data.** Describe the data environment, how you approached interpreting and understanding the data. What techniques did you apply to prepare the data for analysis? Describe why it was necessary to implement these techniques and the implications on the analysis of the data.
   
   d. **Methodology.**
      
      i. **Techniques:** Describe the appropriate techniques for your problem. Why are these the right techniques? Why did you choose the technique(s) you applied?
ii. Procedure: Describe the process and methods that you applied to address the problem and achieve the objectives. The student responsibilities for each project should be clearly identified along with the skills from the DSA core courses they applied to the project.

e. Results and Analysis. Narrative of what the data show. Include summary statistics - mean, standard deviation, etc.; tables of data (title at top); figures of data trends (title at bottom, label axes). Analyze and interpret the meaning of the results. Contextualize the findings according to the organization and problem.

f. Deliverables. The deliverables or outcomes of the plan should be described here. This should include an interpretation of the technical deliverables in the context of the problem objectives. How has the problem been resolved? What is the impact of the project outcomes on the research/business objectives?

g. References. All literature used to guide the solution and/or cited in the main body should be referred to in this section. Choose a citation format and apply it consistently to all references.

h. Self-Assessment. What were your individual learning objectives, and did you accomplish them? What DSA skills were most useful in this project? What skills did you have to learn independently to complete this project? Also include how many credit hours the practicum was for, if it was a paid internship, un-paid internship or research project, and who supervised the work (include name, contact and title).

The final report must be submitted to the Canvas site no later than 48 hours prior to the scheduled oral presentation date.

3. Oral Presentation: A formal oral presentation highlighting the objectives, plan, deliverables, and results as described in the written report. This presentation should be 15 minutes for the 1-hour practicum taken by thesis students, and 25 minutes for the 4-hour practicum taken by non-thesis students.

The oral presentation slides must be submitted to the Canvas site no later than 48 hours prior to the schedule oral presentation date.

Grading:

This course is graded on a Satisfactory/ Unsatisfactory (S/U) basis. To earn a grade of “S”, all criteria in the following table must be met satisfactorily.

<table>
<thead>
<tr>
<th>Assessment items</th>
<th>Criteria</th>
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<tbody>
<tr>
<td>Proposal</td>
<td>Proposal is grammatically correct, includes all required sections, and clearly identifies practicum work tasks and relevance to the degree curriculum.</td>
</tr>
<tr>
<td>Supervisor’s Report</td>
<td>Lists dates worked, describes project(s) and student’s responsibilities, and evaluates student’s performance.</td>
</tr>
<tr>
<td>Technical Performance</td>
<td>Project(s) is/are completed as assigned using good data science and analytical principles.</td>
</tr>
<tr>
<td>Final Report</td>
<td>Report is well organized, clearly written, contains no typographical or grammatical errors, and includes all required sections.</td>
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Academic Integrity Expectations:

What does “academic integrity” mean? Academic integrity means honesty and responsibility in scholarship. Professors have to obey rules of honest scholarship, and so do you as an OU GCOE student. Here are the basic assumptions about academic work at the University of Oklahoma:

- Students attend OU in order to learn and grow.
- Academic assignments exist for the sake of this goal.
- Grades exist to show how fully the goal is attained.

All work and all grades should result from your own effort to learn and grow. Academic work completed any other way is pointless, and grades obtained any other way are fraudulent.

Academic integrity means understanding these basic rules, without which no university can exist. Academic misconduct (cheating) is not just “against the rules.” It destroys the mutual trust and respect that should exist between student and professor. Finally, it is unfair to students who earn their grades honestly. [http://integrity.ou.edu/](http://integrity.ou.edu/)

Reasonable Accommodation Policy:

“The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the professor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 405/325-3852 or TDD only 405/325-4173.”

Adjustments for Pregnancy/Childbirth Related Issues:

Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact me as soon as possible to discuss. Generally, modifications will be made where medically necessary and similar in scope to accommodations based on temporary disability. Please see [www.ou.edu/content/eoo/faqs/pregnancy-faqs.html](http://www.ou.edu/content/eoo/faqs/pregnancy-faqs.html) for commonly asked questions.

Title IX Resources:

For any concerns regarding gender-based discrimination, sexual harassment, sexual misconduct, stalking, or intimate partner violence, the University offers a variety of resources, including advocates on-call 24.7, counseling services, mutual no contact orders, scheduling adjustments and disciplinary sanctions against the perpetrator. Please contact the Sexual Misconduct Office 405-325-2215 (8-5, M-F) or OU Advocates 405-615-0013 (24.7) to learn more or to report an incident.