# DSBA 6400/HCIP 6400: Internship

**Credits, Days/Time, Location:**

3 Graduate Credits

Pre-requisites: Enrolled in the DSBA (or HIA) and completed a minimum of 18 (12 including HCIP 6380 and HADM 6100) credit hours and permission of instructor

Course Days/Hours: Variable based upon your internship.  In this course we do not meet as a class on a regular basis.  We will come together virtually (zoom meeting) at the end of the semester for a session of final internship presentations.

**Faculty Information:**

Robert Fox

Email:          robert.fox@charlotte.edu

Office:          Colvard 1028K

Office Hours:  by appointment.


This syllabus contains the policies and expectations the School of Data Science has established for the Internship course. Please read the entire syllabus carefully before continuing in this course. These policies and expectations are intended to create a productive learning atmosphere for all students. Unless you are prepared to abide by these policies and expectations, you risk losing the opportunity to participate further in the course.

**Description:**

The Internship is an opportunity for students to apply theories, ideas, principles, and skills learned in the classroom to a project of problem solving in practice. Using the internship site as the "organizational laboratory," students further develop skills for becoming data science or analytics professional. The internship experience is about understanding data science, business, and health analytics needs and practices within an organizational context, including their culture, computing and management systems, operations, resources, products, services, markets, service areas, and specialty areas. The internship is about blending your skills together from all of your classes to produce and communicate an outcome and conclusion.  It is *not* about any specific course or class you have taken or whether you have built the absolute best model.  A specific individual at the selected

organization, referred to as the *mentor (or preceptor)*, is expected to provide internship project supervision and act as a point of contact. The experience is obtained in organizations approved by the Program under the guidance of a UNC Charlotte faculty supervisor and a qualified mentor at the selected organization.

**Course Competencies:**

After successfully completing this course, students should be able to:

1. *Identify the purpose and risks* of solving a data analytics problem; strategies should incorporate perspectives of various stakeholders and be responsive to our increasingly diverse workforce and society.

2. *Develop project tasks* that are concrete and feasible to solve a data analytics problem.

3. Use appropriate data analytics tools, interpret the results, and *defend their analysis*.

4. Demonstrate effectiveness in organizing, synthesizing, and articulating ideas and information for various stakeholders in both *written and oral communication*.

5. Articulate and model professional and *ethical behavior* in the workplace.

6. Demonstrate effectiveness in *working with others* in the organization, and the ability to work effectively with personnel from diverse backgrounds.

7. Demonstrate effectiveness in *working as part of a team*, listening, and responding effectively to the ideas of others, and successfully use negation and conflict resolution skills.

**Course Conduct and Professional Responsibility:**

The internship serves as an extension of the teaching mission of the School of Data Science, by giving students work experience in the type of organization or research environment in which they will eventually pursue careers.  While serving in graduate internships, students are representatives of the Programs. As such, they will act with total professionalism at all times. Students participating in internships are required to meet the standards of and comply with the policies and procedures of their workplace, such as attire standards and work hours. While at work, students should ensure their level of effort and contribution to the work environment meet (and preferably exceed) sponsor expectations.  Use of generative AI or other technology tools to complete work is acceptable, if allowed by your mentor.  Any use of these tools should be noted in your submissions.  Specific requirements for your final report are below.

**Internship Requirements:**

- **Fundamental Aspects** – Internship objectives and activities must clearly address two fundamental aspects. These aspects must be demonstrated unequivocally in all setup, documentation, and reporting.

**For DSBA:**

1. Applied DSBA Techniques - First, there must clearly be a **significant component of applying Data Science and/or Business Analytics techniques**. This may involve design, implementation, or analysis, but it should represent some tangible advancement of data science and business analytics systems or outcomes for the organization. *For example, data entry is certainly an essential part of analytics, and may be very important for an organization, but itself would not represent a significant component of analysis or data science experience on the part of the student*. Whereas developing an underlying database from domain requirements analysis, user interface visualizations for others performing data entry, or developing novel predictive analysis and reporting capability from historical outcomes using an existing data warehouse, would represent a significant DSBA development.

2. Domain Content Understanding - Second, the project must clearly involve learning about the application domain to develop **understanding of and direct relevance to the primary domain of expertise of the organization or unit**. For example, many data Extract, Transform and Load (ETL) activities may involve significant development work, but may focus only on limited knowledge about the pre-defined structure / types of data, rather than the semantics and relevance of the important domain concepts underlying that data. Whereas developing an internal web-based dashboard tool for analysis of business records would require an understanding of many of the domain concepts and how they interact, in order to realize such a system.

**For HIA**

1. Applied HIA Techniques - First, there must clearly be a **significant component of applying Health Informatics Analytics techniques from your introductory courses**. This may involve database design, implementation, or analysis, but it should represent some tangible advancement of health informatics and analytics systems or outcomes for the organization. The internship experience also provides students an opportunity to gain understanding of healthcare organizations, their culture, management systems, operations, resources, products, services, markets, service areas, and specialty areas. Using the internship site as the "organizational

laboratory," the student further develops skills for becoming a Health Informatics and Analytics professional. As life-long learners and practitioners, students will continue to develop and grow their knowledge, skills, professionalism, and competence.

2. The practice experience occurs in a healthcare organization carefully selected by the student and approved by the course instructor. Students are encouraged to select an internship position based on their career interests. Our expectation is that the preceptor mentors and guides the student. The course instructor may be used for additional support and guidance.

- **Internship Proposal** - A short formal proposal describing the proposed internship context (organization, role) and activities (objectives, high - level tasks). This should be detailed enough for program staff to understand how the proposed internship activity will meet the fundamental aspects. The focus of the setup proposal is on a higher -level position description and *what* will be accomplished in the internship.

- For any internship that is at a healthcare organization or is unpaid (except for those conducted at UNC Charlotte), there are likely more requirements. Please see the [this site](#) for additional details.

- **Letter of Agreement** - A letter documenting participation of the organization in the internship program must be signed by the mentor/preceptor or another responsible official from the organization where the student will be doing the internship. The mentor agreement letter will be sent to the mentors/preceptors by the instructor, TA, or for HIA internships by Julie Howell, and must be provided directly to Program administration from the respective organization officials to verify approval.

- **Internship Project Plan** – Precise activities are typically defined at the start of an internship. A brief project plan (2 -3 pages containing specifics beyond the setup proposal) detailing objectives, expected tasks, and outcomes to be accomplished during the internship must be developed by the student in consultation with the mentor/preceptor and participating organization. Within the first two weeks of the internship, each student needs to meet with the internship mentor and, using the syllabus as a guide, articulate more specific objectives and proposed tasks for the internship. The focus of the project plan is on more specific work tasks and *how* internship activities will proceed (work packages, expected timeframes, etc.). Most often, the project plan will include a Gantt Chart with a task numbering system. Please review Canvas for the due date.

- **Progress Reporting** - The student must submit regular progress reports/updates, as determined by the UNC Charlotte supervising faculty (typically every two weeks). These will refer back to the Project Plan and task numbers to align update to the project plan. Dates are in the Canvas site.

- **Required Hours** - Students must complete **a minimum of 160 hours** internship experience with the selected organization during the semester of enrollment in the Internship course. Internship organizations may require more hours than the program minimum as part of a specific internship offering, and the student must meet that organizational obligation.

- **Final Report** - The student must write a report (10 to 12 pages) detailing the internship experience; details about the report are described later in the syllabus.

- **Final / Interim Presentation** - The student must present a final summary of internship experience at an Internship Reports session for program staff and students.

- **Post-Internship Mentor Evaluation** - After the internship is complete a representative of the participating organization, typically the mentor, will provide a post-internship evaluation of the student's performance. This evaluation will be considered as a substantial input for the course grade.

- **Post -Internship Student Evaluation** - After the internship is complete the student will provide a post -internship evaluation of the experience.

- **Final Grade** - UNC Charlotte supervising faculty will evaluate the student's overall performance in the internship to assign the course grade.

**Evaluation and Grading:**

- Activity plan, progress reports, and peer evaluations, submitted in a timely fashion. 10%

- Final Presentation and Report: 90%

- 20% will be deducted per day assignment is late (except for Final Report which is at discretion of the instructor):

- DSBA: 70% is necessary to receive a P (pass) grade.

- HIA: Graded A = > 90%; B >80%, C>70%, U < 70%.

**Important Deadlines:**

The following items need to be submitted to the program/UNC Charlotte supervising faculty according to the general schedule that follows. Specific deadlines may be set or amended by the supervising faculty and are generally available in Canvas. For internships that start before or after the normal semester start date, a written plan with revised due dates must be submitted by the student and approved by the supervising faculty.

- Internship Setup Proposal – *due prior to registration for the targeted semester*

- Signed Agreement with organization/mentor – *approximately two weeks after internship start date (Instructor will send this to your Mentor listed in your proposal).*

- Activity Plan, in collaboration with the mentor upon starting at the organization, *two weeks after internship start date*

- Progress reports/updates to UNC Charlotte supervising faculty, *every two weeks after Activity Plan submission*

- Internship Presentation, *as scheduled for presentation sessions; final presentation after internship is complete and before the end of the registered semester*

- Internship Final Report, *after internship is complete, before end of registered semester*

- Post-Internship Student Evaluation of Internship experience, *after internship is complete, before end of registered semester*

- Post-Internship Mentor Evaluation of Student, *after internship is complete, before end of registered semester*

**Role of Mentor/Preceptor:**

The mentor/preceptor is a specific individual at the internship organization who provides internship project supervision and acts as a point of contact with the DSBA program. The mentor/preceptor is expected to take on the following responsibilities to support the internship experience.

1. The mentor/preceptor is responsible for the student's activities and learning during the internship experience.

2. The mentor/preceptor serves as a supervisor and advisor for the students to observe and advise the student routinely. The mentor is the primary judge of the impact of the work to their business.

3. The mentor/preceptor may periodically consult with responsible faculty on the student's progress.

4. The mentor/preceptor completes a student evaluation form at the end of the internship experience.

**Role of Supervising Faculty:**

The supervising UNC Charlotte faculty member and teaching assistants are the liaisons between the student, mentor/preceptor, and the SDS Programs. The supervising faculty member and teaching assistants may assist in the selection of participating organizations and maintain communication with the student and mentor throughout the internship experience. Supervising faculty members and teaching assistants are selected by the SDS Programs.

**Internship Evaluations and Report:**

At the end of internship semester, each organization and student will evaluate the experience using an evaluation rubric provided by the SDS Program. These assessments must be received by program administration in order to receive a grade in this course. To demonstrate accomplishment of concrete objectives and assure accountability during the field experience, as well as providing measurable benefits to the organization, each student intern is required to develop a report. You have the freedom to write the report as your mentor would like to see it. However, please add commentary on your experience as outlined in the Appendix of the following potential outline of an acceptable report. If you choose to use generative AI or other similar tools to assist in writing your report, a separate appendix should be included that includes any prompts and the original output of the tool. You should also include a one paragraph summary of your critique of the original output. These appendices are not included in the 10 page limit.

Title Page: Give your internship project a concise, professional, descriptive title. Include the title, the course number, the semester (e.g., Spring 2022), your name, and the names of your faculty advisor and your mentor.

1. Table of Contents

2. Executive Summary: your summary needs to concisely describe the internship experience, and the business impact, in less than 500 words, single - spaced.

3. Introduction and Background

    o Business objectives of the internship experience

    o Statement of the business problem(s), clearly identifying both (a) the data science and/or business analytics aspects, and (b) relevance to the domain (i.e. retail, finance, energy, healthcare, etc.)

- o Review of relevant literature (citations provided throughout: required for HIA)

4. Methods

   - o Methods to achieving each objective or barriers to achieving objectives

5. Results

   - o This section should be organized according to the business objectives; indicate what objectives were achieved, and which ones were not achieved and why

6. Discussion and Conclusions

   - o Describe the overall business impact.

   - o Describe any new avenues of inquiry that the internship experience suggested you should pursue to be a more effective manager

7. Appendix A not included in page limit

   - o References

   - o The role(s) of your internship mentor(s)

   - o Describe how the internship experience integrated the student's course work in their program. Note: This is an essential part of the report and will be an important element considered in assessing the adequacy of the internship report

   - o Other areas you may want to include

      1. Describe the opportunities the internship afforded you to apply skills acquired in the classroom

      2. Describe observations that enhanced your training in your program

      3. Your general conclusions drawn from the internship experience

      4. Discuss exposure to operational issues that you might want to more fully understand by taking courses in the future

      5. Describe the what kinds of socialization experiences were afforded by the internship opportunity e.g., helped to teach you about professionalism or how to behave in particular roles

6. Discuss what opportunities the internship provided to learn about the art of mentorship

7. Describe organizational or leadership theories used or not viewed as useful in the internship

8. Describe how the internship or your preparation for it might be improved

8. Appendix B (if applicable) not included in page limit

   o Original prompts and output of generative AI or similar tool

   o One paragraph summary of your critique of the original output

**Procedures for Approval to Take the Internship Course:**

An Internship must be approved by the program prior to enrollment, guided by the requirements articulated below. A permit to register for the internship course will be provided only after the following have been complied with:

1. Student has confirmed with program administration their intent to complete an internship *at least a semester prior* to the time the internship is to occur.

2. **Student** secures a suitable internship opportunity.

3. Student works with the internship organization to develop an internship setup proposal, which must be submitted and approved by program administration. The setup proposal must clearly address the fundamental technical and domain aspects. The proposal must be submitted to and approved by program administration well in advance of the semester during which the internship is to occur.

4. Receipt by program administration of a letter of agreement signed by the mentor/preceptor or another responsible official from the organization where the student will be doing the internship. The mentor/preceptor agreement letter must be provided directly to SDS Program administration from the respective organization officials to verify approval.

5. If required by the internship organization, the student may need to provide evidence that they have had immunizations for DTP (diphtheria, tetanus, pertussis) or TD (tetanus, diphtheria), MMR (measles, mumps and rubella) and polio or poliomyelitis, submit results of a recent TB test, and provide evidence of at least

starting the process for taking a Hepatitis B vaccination or submit a letter refusing to take the Hepatitis B vaccine series.

6. If required by the internship organization, a student must have a drug screen test and a criminal background check completed before an internship course permit can be issued. Please note that the student is responsible for keeping and maintaining records of their drug screen test and background check and to have these available when requested by the agency. Additional requirements such as CPR training may also apply.

**Obtaining an Internship:**

We expect SDS students to explore internship options through opportunities provided through the program, including:

- Industry Professionals you have met through the program, such as guest speakers;

- Networking events such as the bi -annual SDS Advisory board meetings;

- SDS faculty affiliates and part time SDS faculty members;

- Recent alumni, particularly SDS students who graduated in the previous year;

- Your classmates.

Networking effectively is an essential skill for all professionals. Using your own initiative will help you develop important skills and help you to obtain an internship that is a closer fit with your professional interests and succeed in your career. While the program may facilitate introductions to internship opportunities, it is the responsibility of the student to obtain an internship that will satisfy the requirements of this course.

**Course Policies**

**Syllabus Changes:**

The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes to this syllabus posted on the course Canvas website.

**Attendance:**

Students are required to attend the presentations sessions at the end of the semester.  There may be one or more optional sessions throughout the semester where the students may ask clarifying questions or the faculty may provide additional guidance.

Students are required to work directly with their instructors regarding final presentation absences for medical appointments, military/court orders, and/or personal and family emergencies, such as a death in the immediate family, where a student is able to provide an instructor with appropriate supporting documentation of the absence. The final decision for approval of absences and missed work or make-up work is determined by the instructor.

The Office of Student Assistance and Support Services (SASS) can provide notification to faculty of emergency situations, when a student is unable to do so and when the office has been made aware of such emergencies. In such situations, the SASS office may also be able to assist with verification of such emergencies, once a student is able to return to classes. The SASS office does not provide verification of absences for car trouble, weather issues, personal activities, work, weddings, vacations, or University-sponsored events. Absences related to such activities should be discussed directly with the faculty member.

Should a student need assistance from the SASS office in verifying an emergency situation, they can submit an [online request form](#) and attach supporting documentation. Please note that students are not required to go through the SASS office at any time regarding absence verification, and the SASS office does not have the authority to excuse absences, allow for make-up work, or provide other academic accommodations.

In cases of absence due to pregnancy or parenting (pregnancy, childbirth, false pregnancy, termination of pregnancy, or recovery from any of these conditions), students should contact the Title IX Office to obtain absence verification by completing the form at [http://bit.ly/332eaGd](http://bit.ly/332eaGd)

[Links to an external site.](#).

**Grade Discussions:**

The instructor will discuss grades only in person (and not via telephone or e-mail) and only with the student (not with parents, spouses, etc). Office hours are listed above.

**Credit and Time Expectations:**

This three credit course requires a minimum of 160 contact hours with you internship organization.  You may exceed this in many cases.

**Electronic Devices:**

Students are not allowed to use any electronic devices during the class, unless otherwise instructed by the instructor.

**Inclement Weather:**

[University Policy](#)

[Links to an external site.](#) states the University is open unless the Chancellor announces that the University is closed. The inclement weather hotline number to call is 704-786-2877. In the event of inclement weather, check your email and NinerAlerts**.** The instructors generally only cancel class if the University is closed.

**Self-Help:**

It is common for college students to experience challenges that may interfere with academic success such as academic stress, sleep problems, juggling responsibilities, life events, relationship concerns, or feelings of anxiety, hopelessness, or depression. If you or a friend is struggling, we strongly encourage you to seek support. Helpful, effective resources are available on campus at no additional cost.

- Visit the Counseling and Psychological Services website at [caps.charlotte.edu](#) for information about the broad range of confidential on-campus mental health services, online health assessments, hours, and additional information.

- Call CAPS at (704) 687-0311 if interested in scheduling an appointment with a counselor. After-hours crisis support is also available through this phone number.

**Copyright:**

My lectures and course materials, including presentations, tests, exams, outlines, and similar materials, are protected by copyright. I am the exclusive owner of copyright in those materials I create. I encourage you to take notes and make copies of course materials for your own educational use. However, you may not, nor may you knowingly allow others to reproduce or distribute lecture notes and course materials publicly without my express written consent. This includes providing materials to commercial course material suppliers such as CourseHero, Chegg, and other similar services. Students who publicly distribute or display or help others publicly distribute or display copies or modified copies of an instructor's course materials may be in violation of University Policy 406, The Code of Student Responsibility.  Similarly, you own copyright in your original papers and exam essays. If I am interested in posting your answers or papers on the course web site, I will request your written permission.

**Absences**

While this course has not set times, except for the final presentation, students are encouraged to work directly with me regarding absences for **medical appointments, military/court orders, and/or personal and family emergencies**, such as a death in the immediate family, where a student is able to provide an instructor with appropriate

supporting documentation of the absence. The final decision for approval of absences and missed work or make-up work is determined by the instructor.  Missing the final presentation will require coordination and may end up with the student receiving and incomplete until this can be arranged with me.  If you are able, it always much easier to present that day. It will be run through Zoom.

**Code of Student Responsibility:**

"The *UNC Charlotte Code of Student Responsibility* (the Code) sets forth certain rights and responsibilities in matters of student discipline.  The Code defines these responsibilities and guarantees you certain rights that ensure your protection from unjust imposition of disciplinary penalties.  You should familiarize yourself with the provisions and procedures of the Code" (Introductory statement from the UNC Charlotte brochure about the Code of Student Responsibility).  The entire document may be found [here](#)

[Links to an external site.](#).

**Academic Integrity:**

All students are required to read and abide by the Code of Student Academic Integrity. Violations of the Code of Student Academic Integrity, including plagiarism, will result in disciplinary action as provided in the Code. Definitions and examples of plagiarism are set forth in the Code. The Code is available from the Dean of Students Office or online.

*Faculty may ask students to produce identification at examinations and may require students to demonstrate that graded assignments completed outside of class are their own work.*

Students should select unique subject areas for the Adapting Visualizations homework.  If by chance more than one student chooses the same original visualization, modified visuals shall be unique enough for the grader to easily determine that the students worked independently. Please use care in selecting visuals to ensure uniqueness from other students.  Students should also not select visuals from Data Storytelling sites or books where before and after visualizations are already provided. Instructor may ask student to reattempt homework if there is any perception of violation.  If a second homework is perceived to be in violation, the student will receive a 0 for that homework.

**Special Needs:**

If you have a documented disability and require accommodation in this course, contact Disability Services, Fretwell 230, phone: 687 4355 voice/TDD) the first week of the semester.  Information about available services may be found at [Office of Disability Services](#)

[Links to an external site.](#). Accommodations for learning will be arranged by that office and communicated to the Instructor.  If you speak English as a second language, please inform the instructor.

**Diversity Statement:**

UNC Charlotte strives to create an academic climate in which the dignity of all individuals is respected and maintained.  Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

All students are required to abide by the [Sexual Harassment Policy](#)

[Links to an external site.](#) and the [Standard for Responsible Use of Information Resources](#)

[Links to an external site.](#). Sexual harassment, as defined in the UNC Charlotte Sexual Harassment Policy, is prohibited, even when carried out through computers or other electronic communications systems, including course-based chat rooms or message boards.

**Religious Accommodation:**

It is the obligation of students to provide faculty with reasonable notice of the dates of religious observances on which they will be absent by submitting a [Request for Religious Accommodation](#)

[Links to an external site.](#) to their instructor prior to the census date for enrollment for a given semester.  The census date for each semester (typically the tenth day of instruction) can be found in UNC Charlotte's Academic [Calendar](#)

[Links to an external site.](#).

**Food Insecurity:**

Food insecurity is defined by the USDA as "a lack of access to enough food for an active, healthy life." Food insecure categories include: reduced caloric intake, reduced food quality, lack of variety in diet, disrupted eating patterns, and hunger. Research shows that college students experience food insecurity at higher rates than the American household rate, and that food insecurity can negatively impact academic performance and persistence. In recognition of this problem, UNC Charlotte offers assistance to students facing food insecurity through an on- campus food pantry. The Jamil Niner Student Pantry (JNSP) is located on the east edge of campus at 1224 John Kirk Road. It has regular hours which may change from semester to semester; please see the website

at https://ninerpantry.charlotte.edu/ for schedule and details on its services, as well as resources about hunger and food insecurity among college students.