NORTHERN CARIBBEAN UNIVERSITY

College of Natural and Applied Sciences, Allied Health & Nursing

Department of Computer and Information Sciences

SPRING 2025

BACHELOR'S DEGREE

COMPUTER INFORMATION SYSTEMS, COMPUTER SCIENCE, INFORMATION TECHNOLOGY

MAJOR:	**Computer Information Systems, Computer Science, Information Technology**
COURSE NAME:	**Information Science Advanced Project**
COURSE CODE:	**CPTR490**
NUMBER OF CREDITS:	**2**
NUMBER OF HOURS:	**30hrs**
CLASS TIMES:	**Friday @ 09:30 – 10:50 AM**
NAME OF LECTURER:	**John Williams**
EMAIL ADDRESS(ES):	**john.williams@ncu.edu.jm**
OFFICE HOURS:	**Mon. & Wed.: 09:00am – 12:00pm** **Tue.: 02:00pm – 05:00pm & Thurs.: 03:00pm – 05:00pm** Use link below to schedule office meeting: https://calendly.com/john-williams-cis/office-hours
MODALITY DELIVERY:	**Online**
FINAL EXAM PERIOD:	**This course does not carry a final exam**
PREREQUISITES:	**CPTR252, CPTR293, CPTR304, CPTR380, CPTR489**
SOCIAL MEDIA:	YouTube

COURSE DESCRIPTION:
Advanced computer project/research that incorporates the knowledge, skills and competencies gained previous computing courses. This is a continuation of the proposal development course (CPTR489), where students will be required to develop the concept that was previously proposed. Project/research report, and other supporting documentation will be required. Project/Research is done in consultation with an instructor. Students have **ONE (1) semester** to complete the project/research.

COURSE OBJECTIVES:
Upon successful completion of this course, students will be able to:

- use a programming language and other development tools to create a solution, whether it's a data-driven website, web applications, mobile solution, or any software application.
- use proper systems design procedures to develop system documentation.
- adopt best practices in software security engineering, ensuring that the software is developed secure
- incorporate mechanisms to ensure user and data privacy
- apply CIS principles and practices to a real-world problem; demonstrate in-depth knowledge in the area of the project they have undertaken; solve problems using required knowledge and skills; implement and test solutions/algorithms.
- implement potential solutions/algorithms for the project/research problem; see patterns and modularize the problem and show proficiency in software engineering principles.
- foster proper time and resource management techniques.
- understand information and grasp meaning; translate knowledge into new context; use information, methods, concepts, and theories of fundamental topics in computer & information sciences (CIS) in new situations.
- enhance personal and professional development.
- demonstrate learned theories and methodologies.
- produce new ideas using the old ones; generalize from given facts in the project/research they undertake, relate knowledge from several areas in systematic scientific approach, predict and draw conclusions relevant to the project/research they undertake.
- apply modern techniques, skills, and tools necessary for CIS practices relevant to the project/research they undertake; apply techniques in recent research papers to solve problems.
- demonstrate knowledge of a selected programming language.
- utilize the necessary data structures to enhance software efficiency.

INTEGRATION OF FAITH AND LEARNING:
Throughout this course, prominence will be placed on the integration of faith and learning. As we pursue knowledge, and specifically technological knowledge, are we advancing to the image of God? We need not be fearful or apprehensive about using technology if we believe that in doing so, we are indeed advancing to His image.

However, we must ensure two things:

- That our reasons for pursuing this knowledge is in line with God's will, and
- That everything we do with the technology reflects God's vision.

Work that is a reflection of God should be wholesome in content, exhibit neatness and order, and display our creative God-given talents.

NCU Values and Attitudes: Focus

1. Christlikeness
2. Integrity
3. Justice

Christlikeness:
I, John Williams and all the students of CPTR490: Advanced Project class, commit to exercising the highest levels of Christlikeness in all actions during this semester in relation to the following:

1. Handling student issues in a fair and equitable manner
2. Displaying honesty with submitted work
3. Displaying kindness to each other
4. Displaying humility, compassion, and unselfishness to each other
5. Showing confidence in all things through Christ who strengthens me. (Philippians 4:13)

Integrity:
The facilitator and students will undertake learning experiences that exercise the highest levels of integrity such as:

- Honouring deadlines in submission of assignments
- Practicing academic honesty with respect to the use of published works and other intellectual property
- Participating equally in group work and activities
- Good stewardship of tools, equipment, and other resources in the teaching learning environment
- Give fair evaluation to student work
- Display proper deportment and conduct.

Justice:
The facilitator and all students will exercise the highest level of justice and fairness in all actions related to this course in the areas of:

- Fair grading for tasks submitted for evaluation
- Timely feedback and redress of inquiries, challenges, issues, grouses
- Impartial treatment of all students regardless of race, age, religious affiliation, nationality, or ethnicity.

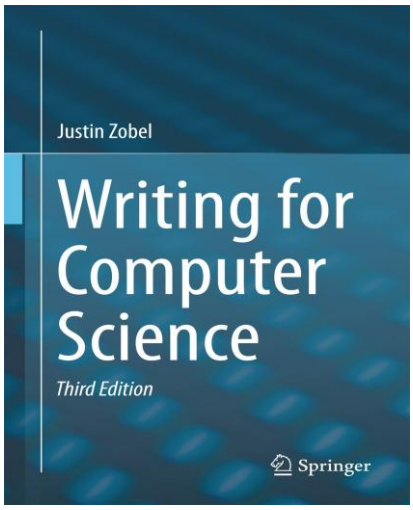
Access to Computer and Internet Resources: This course for **SPRING 2025** will be facilitated online. Completing this course requirement necessitates regular access to computer technology and the Internet.

Civility, Courtesy and Respect: As professionals, mutual respect is required; the instructor expects all class members to communicate in a professional and courteous manner. While everyone may feel passionate about a particular subject and is entitled to his/her opinions, classroom discourse must always be conducted in a respectful and civil tone. No disrespectful or disparaging comments about gender, ethnicity, religion, et cetera will be tolerated.

Honour Code: Regulations on plagiarism and other forms of cheating are strictly enforced. Since engaging in either activity may result in very serious penalties, including failing grades, or dismissal from the University, you should endeavour to avoid such activities. Any assignment or work submitted for this course must not have been submitted for any other course. No written or digitally authored work may be submitted for academic credit more than once. If you have questions about how this may apply to an assignment you are considering for this course, please ask the facilitator for clarification.

Students with a Disabling Condition: Any student who, because of a disabling condition, may require some special arrangements to meet course requirements, should communicate with the instructor in a timely manner, to seek such special considerations. Students should present appropriate verification from the relevant administrative office at the University. There is no guideline indicating that special considerations be given prior to completion of the existing university verification process.

RECOMMENDED READING



Writing for Computer Science 3rd Edition
Author: Justin Zobel
ISBN 10: 1447166388
ISBN 13: 9781447166382
Publisher: Springer-Verlag London
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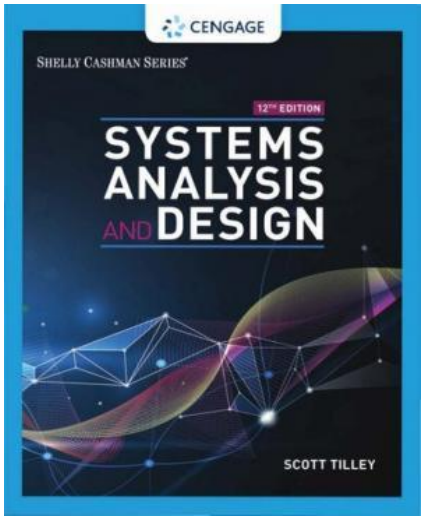
RECOMMENDED READING



Systems Analysis and Design 12th Edition
Author: Scott Tilley
ISBN-10: 0357117816
ISBN 13: 9780357117811
Publisher: Cengage
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GENERAL PROCEDURES

READING

You are expected to do the necessary reading to aid in the completion of your project or research. Students are encouraged to seek out reading materials that are directly related to your project or research ideas.

CLASS PARTICIPATION

Participation in class is vital to you passing this course. Participation is required by all students on days when you are expected to present your milestones. Asking questions for additional knowledge or clarifying a point, answering questions posed, and taking part in devotional activities will help to make your learning experience a more rewarding and fulfilling one.

ASSIGNMENTS

1. All class assignments must be submitted on Moodle (unless indicated otherwise) on or before the due date.
2. Please check the due dates for all your assignments. No late assignment submission will be allowed. There will be **100% off** your assignment grade (you receive 0 point) if the assignment is not submitted on or before the due date.

CHEATING, DISHONESTY, AND PLAGIARISM

The project should be the sole product of the students working on the project. Any 'outside' code and or documentation used should be noted in the system document. Any form of cheating is sufficient for an automatic "F" for the course. The instructor will always help any student who comes to him and asks for it, but cheating, dishonesty, plagiarism, etc., are totally unacceptable. The instructor deals seriously with them. A minimum penalty will be a zero for the assigned task. Further action may be taken at the instructor's discretion. The instructor reserves the right to give any group an "F", if the group cannot prove that all parts of the project was solely done by the group.

WRITING SKILLS

Students must demonstrate proficiency in the use of the English language. Grammatical errors, spelling errors, and writing that fails to express ideas clearly will affect your grade. The faculty will not provide remedial help concerning grammatical errors or other writing difficulties. It is your responsibility to proofread and edit your work which, in both form and content, should be letter-perfect. Work that is not properly edited will be rejected.

COURSE EVALUATION

This will be based on an accumulation of points earned from assigned tasks given. **The proper use of the English Language is expected, and deviation may result in loss of points**.

Software (Application Creation) Track

Final Submission	**55%**
1. Documentation	
2. User Manual	
3. Final Software Solution	
Milestones	**25%**
Progress Reports	**5%**
Final Presentation	**10%**
Code Review	**5%**
Total	**100%**

Research Track

Final Submission	**55%**
1. Survey Instrument (s)	
2. Data Collected/Survey Reponses	
3. Final Research Paper	
Milestones	**25%**
Progress Reports	**5%**
Final Presentation	**10%**
Data Analysis & Results Review	**5%**
Total	**100%**

The grade, based on weighted score:

A = 90 – 100%	B+ = 80 – 84%	B- = 70 – 74%	C = 60 – 64%	D = 50 – 54%
A- = 85 – 89%	B = 75 – 79%	C+ = 65 – 69%	C- = 55 – 59%	F = 0 – 49%

A minimum grade of C+ is required for ALL Computer and Information Science majors.

COURSE PROCEDURE

1. **Milestone** presentations will be done. Students will present in class and/or submit online what was accomplished during that iteration. *Questions will be posed by other class members as well as the instructor. (Arrangements will be made for this with more details to come)*
2. A final presentation of the project/research will be made to a general forum. This may be assessed before a panel of judges or in an exhibition format where students following the research track will be required to do a poster summarizing their paper.
3. ALL Students are required to **submit bi-weekly progress reports** via LMS. This will be a **one-page document** outlining: 1) project-related activities that you have done in that period and the number of hours spent on each activity; 2) the progress made so far; 3) difficulties that you are facing (if any); and 4) what needs to be done next.
4. Students will be interviewed by the different evaluators. This will include questions regarding how specific or general things in the project were accomplished. Here, students MUST prove that they are knowledgeable about the process they went through in developing and completing their project/research.
5. Further information about the project/research will be posted online at http://lms.ncu.edu.jm. Students will be urged to continuously check for updates to course content and deadlines.
6. The online system will be utilized for the duration of the course. You may post general questions to the online discussion forum. Project specific queries may be directed to me via the online messaging system or e-mail.

HOW YOU CAN SUCCEED IN THE COURSE

- Adhere to all the due dates, complete each required task in the time frame allotted.
- Make use of the tools provided to expedite tasks.
- Develop proper systems documentation.
- Keep in constant contact with the instructor regarding progress on your project.
- Make extra effort in the presentation of your project.
- Take your coursework seriously; your grade correlates with the amount of effort you put into it.
- Students will be informed of when their presentation and evaluation interview is scheduled.
- Material must be submitted on or before the date they are due. If the due dates are not adhered to then points will be deducted from the appropriate areas.
- The Final Project/Research will **NOT** be accepted after the due date.

RIGHTS TO SOFTWARE DEVELOPED IN NORTHERN CARIBBEAN UNIVERSITY INFORMATION SCIENCE COURSE WORK

This policy covers software, as well as other non-print media. All software produced in the Department of Computer & Information Sciences in fulfilment of class assignments, whether made on school premises or elsewhere, with or without departmental equipment, or extra funds, are subject to the following ownership policy:

1. All such software is co-owned by the student and the university. In each case the students who originate the software should decide which student or students co-own the software with the school.

2. Either the student or the university may arrange distribution. Students who do not wish to have their software distributed may veto distribution.

3. The university will decide whether to put its name on a given software/system.

4. Distribution deals, whether arranged by the school or by the student, must be approved and signed by the dean.

5. Software may be distributed only after a faculty adviser is certain that all necessary clearances have been obtained by the student.

6. The student and Northern Caribbean University have a right to copies at a given cost when such copies are needed for university or student use.

ADDITIONAL GUIDELINES

Additional guidelines will be provided throughout the semester. These additional guidelines will focus on documentation requirements as well has submission and presentation guidelines. Students should pay keen attention to the dates listed on the course calendars below. **Software (application creation) Track** course calendar is on page 9 and the **Research Track** course calendar is on page 10.

DISCLAIMER: The instructor & the CIS Department reserves the right to adjust this course outline as deemed necessary.

Course Calendar

Software (application creation) Track

Requirement Description	Due Date
Project Use Cases Submit use cases to be implemented per milestone. Each milestone should be assigned a minimum of 20 hours.	**Jan 20, 2025**
Bi-Weekly Report 1 This will be a **document** outlining: 1) project-related activities that you have done in that period and the number of hours spent on each activity; 2) the progress made so far; 3) difficulties that you are facing (if any); and 4) what needs to be done next.	**Jan 27, 2025**
Milestone 1 (5 minutes Presentation) Present the use cases implemented during that iteration. This will be matched against the list of use cases that were submitted on January 20, 2025.	**Feb 7, 2025**
Bi-Weekly Report 2 This will be a **document** outlining: 1) project-related activities that you have done in that period and the number of hours spent on each activity; 2) the progress made so far; 3) difficulties that you are facing (if any); and 4) what needs to be done next.	**Feb 10, 2025**
Milestone 2 (5 minutes Presentation) Present the use cases implemented during that iteration. This will be matched against the list of use cases that were presented on January 20, 2025.	**Feb 21, 2025**
Bi-Weekly Report 3 This will be a **document** outlining: 1) project-related activities that you have done in that period and the number of hours spent on each activity; 2) the progress made so far; 3) difficulties that you are facing (if any); and 4) what needs to be done next.	**Mar 03, 2025**
Milestone 3 (5 minutes Presentation) Present the use cases implemented during that iteration. This will be matched against the list of use cases that were presented on January 20, 2025.	**Mar 07, 2025**
Bi-Weekly Report 4 This will be a **document** outlining: 1) project-related activities that you have done in that period and the number of hours spent on each activity; 2) the progress made so far; 3) difficulties that you are facing (if any); and 4) what needs to be done next.	**Mar 17, 2025**
Final Presentation Present your project in a general forum to a panel of evaluators.	**Mar 28, 2025**
Code Review Present your code to the instructor (all **code smells** outlined in the course outline must be eliminated) **Code Smells:** (Duplicated Code, Dead Code, Long Method, Large Class, Temporary Fields, Message Chains, Uncommunicative name, inconsistent names, Long Parameter list)	**Apr 3 – 14, 2025**
Final Project Submission Includes the completed final project with supporting documentation.	**Apr 22, 2025**

Course Calendar

Research Track

Requirement Description	Due Date
Research Comprehensive Timeline Submit a comprehensive timeline with objectives that will be achieved for each milestone, a minimum of 20 hours per month must be dedicated to your research.	**Jan 20, 2025**
Bi-Weekly Report 1 This will be a **document** outlining: 1) research project-related activities that you have done in that period and the number of hours spent on each activity; 2) the progress made so far; 3) difficulties that you are facing (if any); and 4) what needs to be done next.	**Jan 27, 2025**
Milestone 1 (5 minutes Presentation) Present the objectives achieved during that iteration. This will be matched against the list of objectives submitted on January 20, 2025.	**Feb 7, 2025**
Bi-Weekly Report 2 This will be a **document** outlining: 1) research project-related activities that you have done in that period and the number of hours spent on each activity; 2) the progress made so far; 3) difficulties that you are facing (if any); and 4) what needs to be done next.	**Feb 10, 2025**
Milestone 2 (5 minutes Presentation) Present the objectives achieved during that iteration. This will be matched against the list of objectives presented on January 20, 2025.	**Feb 21, 2025**
Bi-Weekly Report 3 This will be a **document** outlining: 1) research project-related activities that you have done in that period and the number of hours spent on each activity; 2) the progress made so far; 3) difficulties that you are facing (if any); and 4) what needs to be done next.	**Mar 03, 2025**
Milestone 3 (5 minutes Presentation) Present the objectives achieved during that iteration. This will be matched against the list of objectives presented on January 20, 2025.	**Mar 07, 2025**
Bi-Weekly Report 4 This will be a **document** outlining: 1) research project-related activities that you have done in that period and the number of hours spent on each activity; 2) the progress made so far; 3) difficulties that you are facing (if any); and 4) what needs to be done next.	**Mar 17, 2025**
Final Presentation Present your research in a general forum to a panel of evaluators.	**Mar 28, 2025**
Data Analysis & Results Review Present your data, analyses, and results to the instructor (all formulas, data analysis tools, Charts, Tables, Models, survey instrument, participants responses etc. must be shown)	**Apr 3 – 14, 2025**
Final Project Submission Includes the completed final research project with supporting documentation.	**Apr 22, 2025**

ASSESSMENT SUBMISSION GUIDELINES

1. The University's **regulations on plagiarism** and other forms of **cheating MUST** be followed and always maintained. See the Honour code above.

2. All assessments **must be completed and submitted by the stated cut-off date and time**, otherwise your work will be penalized.

3. The **Code of Honour Statement** given below is expected to be submitted with all assessments, including final exams, projects, individual assignments, group assignments and any other forms of assessment.

Code of Honour Statement

I, pledge on my/our honour that this is my/our honest work, and I/we did not cheat, and I/we did not receive any unauthorised assistance; neither did I/we assist anyone to cheat nor share with anyone, nor give unauthorised assistance to any person in completing this examination/assignment/assessment submitted to Northern Caribbean University.

I/we acknowledge that the regulations on any form of cheating are strictly enforced and that engaging in any activity deemed as cheating or an attempt to cheat may result in very serious penalties, including failing grades, or dismissal from the University. I/we will endeavour to avoid such activities and guide my/our actions accordingly.

Choosing to continue with this assessment is an indication that I/we have read, understood, and consented to undertake and submit this assessment.

_____ (Insert ID#)

GUIDELINES ON USE OF ARTIFICIAL INTELLIGENCE APPLICATIONS/TOOLS

You are welcome to use artificial intelligence (AI) tools and applications (such as ChatGPT, Gemini, Copilot, etc.) to support the learning objectives of this course. Please be aware you are responsible for the information you submit based on an AI query.

Any use of these tools other than where indicated is a violation of this course's expectations and will be addressed through NCU's Academic Integrity Policy.

If you use Generative AI tools to aid in any of the *CPTR490: Information Science Advanced Project* assignments, it is expected that the tool be properly referenced using APA style, and a description outlining why it was used and for what purpose, and how it enhanced your assignment. This description needs to be explicit and accompanied by all assignments that utilize these tools. Failure to include a proper reference and description will be considered to be a breach of academic integrity and academic misconduct.

Important note: While using generative AI tools to assist with understanding or generating ideas can be helpful, it's crucial to ensure that the final work is your own original creation. Overreliance on AI tools can lead to plagiarism and academic dishonesty.