



## Course Syllabus

[Chaminade University Honolulu](#)

3140 Waiālae Avenue  
Honolulu, HI 96816

**Course Number:** HC 307  
**Course Title:** Data Analytics in Healthcare  
**Department Name:** Community and Public Health  
**College/School/Division Name:** School of Nursing and Health Sciences  
**Term:** Spring 2023  
**Course Credits:** 3 credits  
**Class Meeting Days/Hours:** Asynchronous Online  
**Course Website Address (Canvas):** <https://chaminade.instructure.com/>

**Instructor Name:** Donna L. Agan, EdD  
**Email:** [donna.agan@chaminade.edu](mailto:donna.agan@chaminade.edu)  
**Phone:** 619-889-2973  
**Office Hours:** Virtual Office (by appointment)

### University Course Catalog Description

This course explores the use of data analytics for quality and performance improvements in community and public health. The application and creation of datasets as well as techniques for data visualization, aggregation, and communication will be developed. Students will gain skills in statistical programming to perform descriptive and predictive analytics using Microsoft Excel and other resources.

### Marianist Values

This class represents one component of your education at Chaminade University of Honolulu. An education in the Marianist Tradition is marked by five principles and you should take every opportunity possible to reflect upon the role of these characteristics in your education and development:

1. Education for formation in faith
2. Provide an integral, quality education
3. Educate in family spirit
4. Educate for service, justice and peace
5. Educate for adaptation and change

### Native Hawaiian Values

Education is an integral value in both Marianist and Native Hawaiian culture. Both recognize the transformative effect of a well-rounded, value-centered education on society, particularly in seeking justice for the marginalized, the forgotten, and the oppressed, always with an eye toward God (Ke Akua). This is reflected in the 'Olelo No'eau (Hawaiian proverbs) and Marianist core beliefs:

1. Educate for Formation in Faith (Mana) E ola au i ke akua ('Olelo No'eau 364) May I live by God
2. Provide an Integral, Quality Education (Na'auao) Lawe i ka ma'alea a kū'ono'ono ('Olelo No'eau 1957)  
Acquire skill and make it deep
3. Educate in Family Spirit ('Ohana) 'Ike aku, 'ike mai, kōkua aku kōkua mai; pela iho la ka nohana 'ohana ('Olelo No'eau 1200) Recognize others, be recognized, help others, be helped; such is a family relationship

- Educate for Service, Justice and Peace (Aloha) Ka lama kū o ka no‘eau (‘Ōlelo No‘eau 1430) Education is the standing torch of wisdom
- Educate for Adaptation and Change (Aina) ‘A‘ohe pau ka ‘ike i ka hālau ho‘okahi (‘Ōlelo No‘eau 203) All knowledge is not taught in the same school

### Program Learning Outcomes (PLO)

Upon completion of the Bachelor of Science in Community and Public Health program, students will be able to:

- Assess factors affecting community health and develop a strategic plan based on evidence.
- Utilizing the Marianist value of service, justice and peace; evaluate outcomes of policies, programs and/or services and implement strategies for quality improvement, utilizing evidence and public health informatics.
- Collaborate with individuals, groups, and organizations utilizing leadership and communication skills to defend programs/policies and/or resources that improve community health, incorporating the Public Health Code of Ethics.
- Develop and evaluate strategies for communicating information to influence behavior and improve health, utilizing behavioral theories.

### The Eight Areas of Responsibility for Health Education Specialists ([NCHEC, HESPA II 2020](#))

- Area I: Assessment of Needs and Capacity
- Area II: Planning
- Area III: Implementation
- Area IV: Evaluation and Research
- Area V: Advocacy
- Area VI: Communication
- Area VII: Leadership and Management
- Area VIII: Ethics and Professionalism

### Course Learning Outcomes (CLO)

By the end of our course, students will be able to:

- Identify and describe data used for quality and performance improvement metrics in community and public health
- Locate sources of population surveys, vital statistics, registries, and other health information that are available to the public on the Internet from reputable sources
- Analyze, summarize, and interpret data from healthcare-related databases
- Produce written and visual reports of findings as the result of the student’s data analysis

### Alignment of Learning Outcomes

	CLO 1	CLO 2	CLO 3	CLO 4
Marianist Values	2, 4, 5	2, 4, 5	2, 4, 5	2, 4, 5
Program Learning Outcomes	1 Areas I, IV	1, 2 Areas I, IV	1, 3, 4 Areas I, IV, VI, VII, VIII	1, 3, 4 Areas I, IV, VI, VII, VIII

### Course Prerequisites

A laptop computer with Microsoft Office 365, Google application, and Zoom are required programs for efficiently running a virtual format of lecture and virtual meeting. It is essential that you maintain updates on

your computer programs and application tools. There are multiple online modules. Most exams are via computer.

Students are also expected to have a basic understanding of Microsoft Word and Excel.

### **Required Learning Materials**

Johri, N. (2021). *Health services research and analytics using Excel®*. Springer.

<https://doi.org/10.1891/9780826150288>

Microsoft Office 2019 or Microsoft Office 365 with Word, Excel, and PowerPoint

### **Recommended Learning Materials**

\*American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). <https://doi.org/10.1037/0000165-000>

Schmuller, J. (2016). *Statistical analysis with Excel® for dummies®* (4th ed.). John Wiley & Sons.

\*Recommend spiral-bound version of APA manual.

### **Hardware Requirements**

Canvas is accessible from both PC and Mac computers with a reliable internet connection. You will also need to be able to access audio and video files. Subsequently, you should have access to speakers or headphones that allow you to hear the audio.

### **Software Requirements**

You will need to have some ability to listen to audio in an mp3 format, watch videos in mp4 format, stream online videos, and read .pdf files. There are a number of software programs online that can be downloaded for free. If you need assistance with locating software, please contact the Chaminade Help Desk at [helpdesk@chaminade.edu](mailto:helpdesk@chaminade.edu) or (808) 735-4855.

### **Technical Assistance for Canvas Users:**

- Search for help on specific topics or get tips in [Canvas Students](#)
- [Live chat with Canvas Support for students](#)
- Canvas Support Hotline for students: +1-833-209-6111
- Watch this [video to get you started](#)
- [Online tutorials](#): click on “Students” role to access tutorials
- Contact the Chaminade IT Helpdesk for technical issues: [helpdesk@chaminade.edu](mailto:helpdesk@chaminade.edu) or call (808) 735-4855

### **Tutoring and Writing Services**

Chaminade is proud to offer free, one-on-one tutoring and writing assistance to all students. Tutoring and writing help is available on campus at Kōkua ‘Ike: Center for Student Learning in a variety of subjects (including, but are not limited to: biology, chemistry, math, nursing, English, etc.) from trained Peer and Professional Tutors. Please check Kōkua ‘Ike’s website (<https://chaminade.edu/advising/kokua-ike/>) for the latest times, list of drop-in hours, and information on scheduling an appointment. Free online tutoring is also available via TutorMe. Tutor Me can be accessed 24/7 from your Canvas account. Simply click Account – Notifications – TutorMe. For more information, please contact Kōkua ‘Ike at [tutoring@chaminade.edu](mailto:tutoring@chaminade.edu) or 808-739-8305.

### **Library**

The Sullivan Family Library link is available on the CUH website: <http://www.chaminade.edu/library> Phone: (808) 735-4725. Krystal Kakimoto, dedicated SONHP librarian: [krystal.kakimoto@chaminade.edu](mailto:krystal.kakimoto@chaminade.edu)

### **Attendance and Participation**

Regular online attendance and participation/engagement is expected for student success. Therefore, students are expected to attend every class, arrive on time for any scheduled synchronous activities, complete all assigned readings, actively participate in class discussions, complete all class assignments, and always behave

appropriately and professionally. Online participation is evident through posting to a discussion board, wiki, virtual office, or classroom meeting, drop box submissions, attending virtual seminars, completing real-time activities or quizzes, and/or other course-related activities (synchronous or asynchronous). Students should notify their instructor when illness or other extenuating circumstances prevent them from attending class and they should make arrangements to obtain missed information and complete missed assignments. Notification may be done by emailing the instructor's Chaminade email address, calling the instructor, or by leaving a message with the instructor's division office. It is the instructor's prerogative to modify the deadlines of course requirements accordingly. Any student who stops attending a course without officially withdrawing may receive a failing grade. Students may be automatically withdrawn from the class or receive a failing grade if there are three or more absences, or two absences in a row, in a 15-week term. Failure to meet attendance and participation expectations may result in grade reduction, remediation requirements, or administrative withdrawal from the course

### Assignments

Module	Assignments	Points
Module 1	Discussion Board: Introduction	Pass/Fail
Module 3	Quiz #1	10
Module 4	Community of Practice	5
Module 6	Quiz #2	10
Module 7	Identify and Describe a Database for Course Project	5
Module 8	Quiz #3	10
Module 10	First Draft of Project Paper	10
Module 11	Quiz #4	10
Module 13	Project Paper	15
Module 14	Quiz #5	10
Module 15	Presentation of Paper	15
	<b>Total</b>	<b>100 Points</b>

### Grading Scale

- A = 90-100%
- B = 80-89.99%
- C = 70-79.99%
- D = 60-69.99%
- F = below 60%
- \*\* No round off

### Course Policies

#### Teaching/Learning Strategies

This course is online. Online learning resources, discussion forums, individual work, case studies, application assignments, and independent study are teaching/learning strategies that may be utilized in this course. Exploration of concepts are done through discussions, experiential learning, review and synthesis of articles, pertinent web sites, and scholarly papers. Students are expected to take an active role in their learning process through reading, research, online discussions, and sharing enriching experiences.

#### Grades of "Incomplete"

An Incomplete grade is granted at the discretion of the faculty of record and must be aligned with the University policies. Receiving an "Incomplete" for a course that is a prerequisite for a forthcoming course must be completed prior to the start of the new course.

### **Writing and Assignment Policy**

*Students must complete all assignments to achieve a passing grade in this course.* Prior approval is required for submission of late assignments. With appropriate rationale, a revised due date may be negotiated.

All written assignments should be formatted to APA 7th edition standards and must be submitted as MS Word or Excel documents, per assignment instructions. No Google docs, PDF, Pages, or other formats will be accepted.

Writing assignments that do not conform to APA 7th edition format or do not represent scholarly and ethical writing will receive a grade of 0 points. When instructor feedback and corrections are incorporated into the assignment, it may be submitted one more time for grading.

The faculty of the School of Nursing and Health Professions at Chaminade University of Honolulu is dedicated to providing a learning environment that supports scholarly and ethical writing, free from academic dishonesty and plagiarism. This includes the proper and appropriate referencing of all sources. Students may be asked to submit course assignments through an online authenticity resource (e.g., Turnitin), which helps students and instructors detect potential cases of academic dishonesty.

### **Discussion Board General Guidelines:**

Read through the entire discussion board question or prompt before making your initial thread post. Topics may be broken down into multiple components, each of which must be addressed in your initial reply.

Be constructive and substantive in your posts and peer feedback. Use an example from the original post to build upon, use examples from your current workplace or work experience, stimulate further discourse by asking questions when responding to your peers.

Support your work. For discussion board assignment with point values, you must have a citation for every post. Citations may include your course textbook, peer-reviewed journal articles, or other high-level evidence. Citations should follow APA 7th edition formatting.

### **Late Work Policy**

It is expected that assignments will be submitted on time. Late assignments may be subject to a deduction of 5% per day. Extensions on assignments require faculty approval. Requests made within the week prior to the due date will not be granted unless there is an emergency.

### **Instructor and Student Communication**

Questions for this course can be emailed to the instructor at [donna.agan@chaminade.edu](mailto:donna.agan@chaminade.edu). Online, in-person, and phone conferences can be arranged and are encouraged. Response time will be within 2 days. Please keep in mind that the instructor lives in the Pacific Time Zone.

### **Online Course Guidelines**

Chaminade uses Canvas as the online learning management system (LMS) platform. Please review the Student Tutorial located on the Canvas course dashboard regarding instructions on accessing and submitting materials and assignments. If you are unable to find answers using the student tutorial, you may also contact the assigned faculty with questions regarding course navigation.

Students should follow standard Netiquette guidelines, including but not limited to using the same common courtesy, politeness, and appropriate online behaviors as would be used in a face-to-face environment.

### **Disability Access**

If you need individual accommodations to meet course outcomes because of a documented disability, please speak with me to discuss your needs as soon as possible so that we can ensure your full participation in class and fair assessment of your work. Students with special needs who meet criteria for the Americans with Disabilities

Act (ADA) provisions must provide written documentation of the need for accommodations from Kōkua 'Ike: Center for Student Learning by the end of Week 3 of the class, in order for instructors to plan accordingly. If a student would like to determine if they meet the criteria for accommodations, they should contact the Kōkua 'Ike Coordinator at (808) 739-8305 for further information (ada@chaminade.edu).

### **Title IX Compliance**

Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical and/or psychological abuse, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. If you or someone you know has been harassed or assaulted, you can find the appropriate resources by visiting Campus Ministry, the Dean of Students Office, the Counseling Center, or the Office for Compliance and Personnel Services.

### **Student Conduct Policy**

Students should conduct themselves in a manner that reflects the ideals of the University. This includes knowing and respecting the intent of rules, regulations, and/or policies presented in the Student Handbook, and realizing that students are subject to the University's jurisdiction from the time of their admission until their enrollment has been formally terminated. Please refer to the Student Handbook for more details. A copy of the Student Handbook is available on the Chaminade website under Student Life" (Chaminade University Catalog 2022-2023, p. 156-157.)

For further information, please refer to the Student Handbook which is linked annually on the following webpage: <https://chaminade.edu/current-students/>

### **Credit Hour Policy**

The unit of semester credit is defined as university-level credit that is awarded for the completion of coursework. One credit hour reflects the amount of work represented in the intended learning outcomes and verified by evidence of student achievement for those learning outcomes. Each credit hour earned at Chaminade University should result in 45 hours of engagement. This equates to 1 hour of classroom or direct faculty instruction and a minimum of 2 hours of out-of-class student work each week for approximately 15 weeks for 1 semester, 10-week term, or equivalent amount of work over a different amount of time. Direct instructor engagement and out-of-class work result in total student engagement time of 45 hours for 1 credit.

The minimum 45 hours of engagement per credit hour can be satisfied in fully online, internship, or other specialized courses through several means, including (a) regular online instruction or interaction with the faculty member and fellow students and (b) academic engagement through extensive reading, research, online discussion, online quizzes or exams; instruction, collaborative group work, internships, laboratory work, practica, studio work, and preparation of papers, presentations, or other forms of assessment. This policy is in accordance with federal regulations and regional accrediting agencies.

## Course Schedule

Module # Begins	Topic	Assignment Due Date
1 1/9/23	Introduction to Healthcare Data (Chapter 1)	Discussion Board: Introduction 1/15/23
2 1/16/23	Working in Excel and Importing Data (Chapter 2, pp. 11-26)	
3 1/23/23	Working in Excel and Importing Data (Chapter 2, pp. 26-38)	Quiz 1 1/29/23
4 1/30/23	Identifying, Categorizing, & Presenting Data in Excel Community of Practice (Chapter 3, pp. 39-55)	Community of Practice 2/5/23
5 2/6/23	Identifying, Categorizing, & Presenting Data in Excel Community of Practice (Chapter 3, pp. 55-68)	
6 2/13/23	Setting Bounds and Hypothesis Testing (Chapter 4)	Quiz 2 2/19/23
7 2/20/23	Testing and Comparing Means (Chapter 5)	Selecting and Describing a Database for Course Project – Due 2/26/23
8 2/27/23	Checking Patterns, Scatterplots, Correlations, & Regressions (Chapter 6)	Quiz 3 3/5/23
9 3/6/23	Visualization and Spatial Analysis Using 3D Maps (Chapter 7, pp. 135-143)	
10 3/13/23	Visualization and Spatial Analysis Using 3D Maps (Chapter 7, pp. 144-153)	First Draft of Project Paper 3/19/23
<b>3/20/23</b>	<b>SPRING RECESS</b>	
11 3/27/23	ANOVA (Chapter 8)	Quiz 4 4/2/23
12 4/3/23	MeaningCloud in Excel (Chapter 9, pp. 167-176)	
13 4/10/23	MeaningCloud in Excel (Chapter 9, pp. 177-183)	Project Paper 4/16/23
14 4/17/23	Sampling and Research Design (Chapter 10)	Quiz 5 4/23/23
15 4/24/23	Project Presentations	Submit Presentation 4/30/23

### Please Note:

While every attempt has been made to prepare this syllabus and class schedule in final form, it will be the course coordinator's prerogative to make any changes as may be deemed necessary in order to meet the learning outcomes of the course. Students will be notified in writing via Chaminade email of any changes. It is recommended that you check Chaminade email and course site including the clinical hub for students in Canvas frequently for announcements. A syllabus is a contract between the university and the students. All students will be held responsible to read, understand, and clarify the content within this document.