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# Designing Experiential Learning with a focus on JTF Competencies: The Clinical Research Sciences Program Internship at NCCU

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# About Our Program

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- The Clinical Research Sciences Program (CRSP) was established in the Fall of 2018 and launched in Spring 2020
- Asynchronous/online, hybrid, and face-to-face, to support various learning needs and meet the challenges of a busy life.
- Three unique offerings: (1) a Bachelor of Science in Clinical Research; (2) a minor; and (3) a post-baccalaureate certificate in Clinical Research.
- Instructors are clinical research professionals from various backgrounds with a combined 25 years of experience.



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# Bachelor of Science in Clinical Research Degree

Course Title	Credits
Principles of Clinical Research	3
Pharmaceutical Data Science/Biostatistics	3
Clinical Biostatistics	3
Clinical Trial Management I	3
Clinical Trial Management II	3
Clinical Biochemistry	3
Pharmacology	3
Regulatory Sciences	3
Pathophysiology	3
Pharm Tech Writing	3
Medical Bioethics	3
Pharmacovigilance	3
Advanced Data Management	3
Medical Terminology (online)	2
Presentation Skills	1
Literature Review	1
Interpersonal Skills	1
Clinical Trial Protocol Design	1
BioBanking & Interpreting Lab Data	1
Good Clinical Practice	1
Clinical Research Internship	12



# Aligning Objectives

- Align objectives with JTF competencies
- Scaffold across program curriculum
  - Freshman-Sophomore (Fundamental)
  - Junior-Senior (Skilled)



## Domain 2: Ethical and Participant Safety Considerations

**Fundamental:** Recognize difference between clinical equipoise and therapeutic misconception

**Skilled:** Explain rationale and demonstrate how these concepts impact patient understanding

# Setting and Evaluating Objectives

We focus on how students learn BEST!

- Students come with prior knowledge and life experiences
- Create opportunities for students to display personal strengths
  - **8 Intelligences** (linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, naturalist)
  - A variety of assessments improve outcome quality (e.g., video presentation vs. written essay/poem)



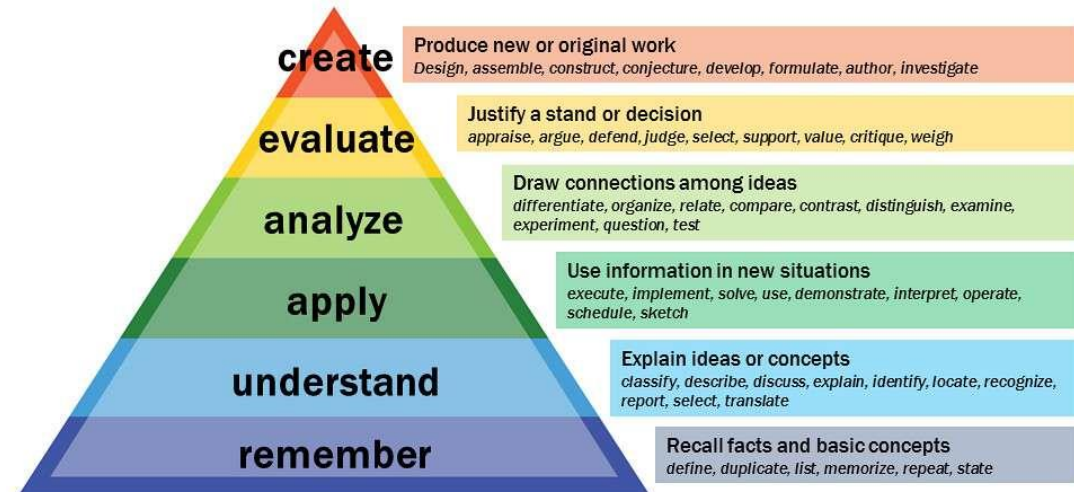
# Using A Trusted Educational Framework

## The Bloom's Taxonomy

Tiered framework for developing learning objectives

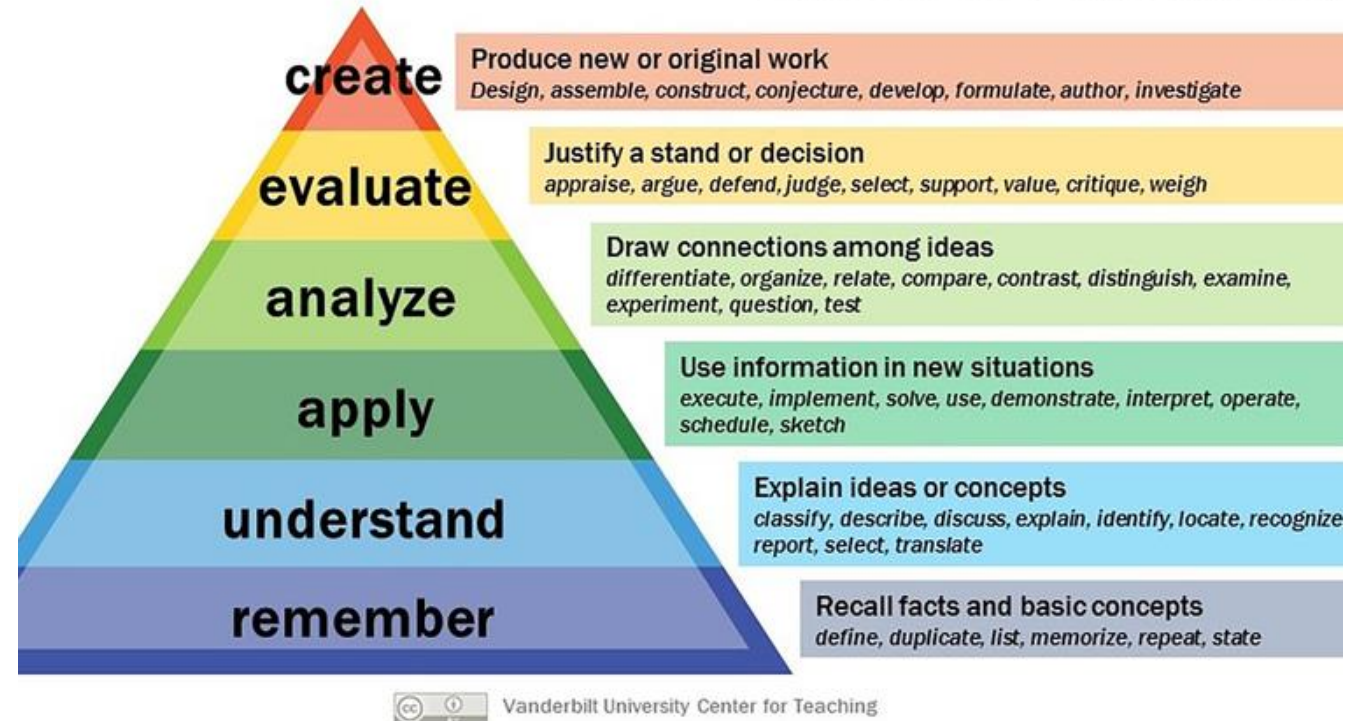
Higher-order learning objectives and assessment to evaluate knowledge, as students develop

## Bloom's Taxonomy





# Bloom's Taxonomy



## Aligning Competencies with Learning Objectives

Strategically aligning the fundamental and skilled level competencies with Bloom's Taxonomy

# Internship Course Details

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- Students enroll in the CRSB 4000 course for academic credit (12 credits)
- 15 weeks
- Unpaid
- Part-time (minimum of 12 hours/week and max. 30 hours/week)
- Can be on-site, fully remote, or hybrid
- Students are matched based on interests and availability
- Requires background check, drug screen, interview







## Learning Objectives for Interns

- **APPLY** Good Clinical Practices in the conduct of clinical research
- **[Understand]** Execute the role/responsibility of an entry-level clinical research professional within the clinical research team
- **APPLY** professionalism and interpersonal skills to ensure success in clinical and scientific workplaces
- **[ANALYZE]** Demonstrate qualitative or quantitative data collection and analysis research skills
- **[EVALUATE]** Apply literature review skills to develop and share new knowledge in clinical and scientific research workplace
- **[CREATE]** Execute well-researched presentations with confidence



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## Examples of Internship Activities

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- Creating newsletters, social media posts, educational materials for research studies
- Conducting literature reviews and summaries on a specific research topic
- Assist with document preparation, review, and IRB/IEB submissions
- Attend meetings and take meeting notes
- Observe/practice patient recruitment and follow up data collection
- Building databases (e.g., RedCap)
- Data management and analysis



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# Community Engagement Objectives

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- Participate in community outreach to improve education on clinical research/clinical trial participation in underrepresented communities
- Utilizing RCMI infrastructure to support community engagement activities (e.g., food, give-aways, community connections, etc.)
- Assist with community outreach initiatives, provide clinical research education, Q/A, mobile unit tour, and providing free health assessments





# Evaluating Knowledge

- **APPLY** Good Clinical Practices in the conduct of clinical research
- **UNDERSTAND** and describe the roles of various clinical research professionals within the clinical research team
- **APPLY** professionalism and interpersonal skills to ensure success in clinical and scientific workplaces
- **[ANALYZE]** Build skillsets in quantitative research
- **[EVALUATE]** Apply literature review skills to develop and share new knowledge in clinical and scientific research workplace
- **[CREATE]** Execute well-researched presentations with confidence



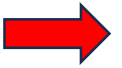
- Assessing adherence to study protocol and regulations via preceptor feedback



- Assessing journal and discussion board entries



- Assessing dress code and attendance policy adherence; verbal and written communication adherence



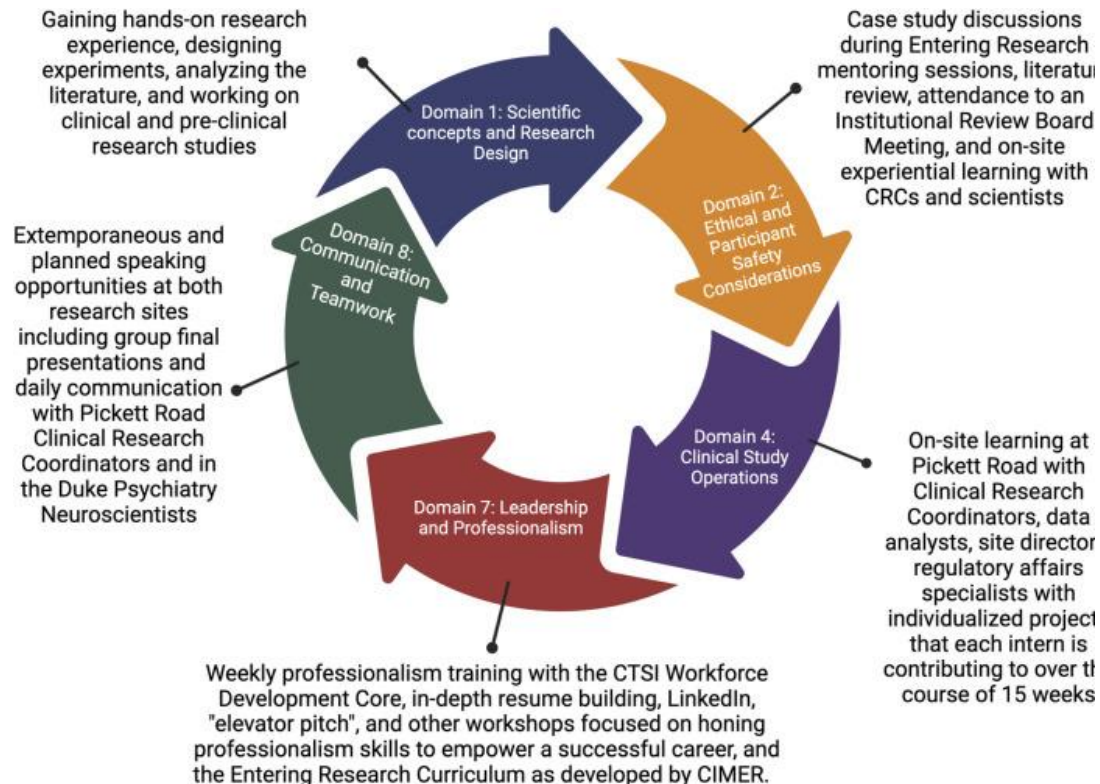
- Assess data collection and interpretation skills via visual presentation



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# Publications



> [Front Pharmacol.](#) 2023 Dec 6;14:1294535. doi: 10.3389/fphar.2023.1294535. eCollection 2023.

## A novel cross-institutional college internship program to train future diverse leaders in clinical research with data-driven approaches to assess impact

Julia Derk <sup>1 2 3</sup>, Kafui Dzirasa <sup>1 2 3 4</sup>, Tracie Locklear <sup>2 5</sup>



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# Next Steps: Assessing Student Feedback

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- 9 students have gone through the internship to date
- IRB protocol in place to collect pre and post internship feedback
  - Self-efficacy
  - Feelings of belonging
  - Access to research opportunities
  - Mentor-Mentee relationship
  - Future education and career goals



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Where Purpose Takes Flight

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