

**ACTCM at CIIS**  
**Course Syllabus**

Semester:	
Course Title: <b>Research Methods</b>	Course Number: <b>ACM7243</b>
Meeting times:	Credits/hours: <b>2 units/30 hours</b>
Prerequisites: <b>ACM6241</b>	
Instructor Name/Title:	Office Hours:
Email Address:	Phone Number:

**Course Description:**

This course introduces the fundamental principles of research and evidence based medicine, with emphasis on clinical trials. Students will review a variety of published research studies in the acupuncture and traditional medicine field, and will compare their strengths and limitations. This course provides a foundation in research methodology to enable students to read and critique the medical literature. The course provides foundations for asking research questions and designing studies to answer those questions.

**Course Objectives:** Upon completion of this course, students will be able to

- Ask a testable question about the effectiveness of acupuncture and Chinese medicine.
- Critique research by interpreting statistical results, potential bias and confounding factors.
- Understand ethical study design while developing a research protocol.

**Required Reading:**

- Instructor’s handouts and reading articles as listed in the reference section

**Recommended Reading:** (Use the most recent references available whenever possible. The obvious exception is historic or classic texts.)

- See the list below.

**Course Schedule, Content Outline, and Assignment Due Dates**

(Out of class work for this class includes reading notes and other classroom materials in order to prepare for exams and other student work in this course. Readings and preparation should require at least two hours per one hour of time in class)

Week	Date	Topics and Exam Schedules	Reading and Other Assignments (Include page numbers)
1		Overview of evidence-based medicine (EBM), research design, analysis tools	Assignment: answer and discuss Chap 1 questions on page 29 (for next class)
2		Developing answerable questions Complete problem analysis (in class)	
3		Searching for information and, critiquing Study results I	Assignment: answer and discuss Chap 2 questions on pages 51
4		Statistical principles I: standard deviation,	

<b>Week</b>	<b>Date</b>	<b>Topics and Exam Schedules</b>	<b>Reading and Other Assignments (Include page numbers)</b>
		confidence interval, and p-values, Complete debate statement (in class)	
5		Searching for information and, critiquing Study results II	Assignment: answer and discuss Chap 7 questions on pages 179
6		Statistical principles II: odds, relative risk, risk difference, type I and II errors Complete Human Subjects CITI Certificate ( <a href="http://www.citiprogram.org/">http://www.citiprogram.org/</a> )	
7		Ethical issues in conducting clinical research - IRBs, federal guidelines on human subjects, informed consent, blinded trials, deception.	Assignment: answer and discuss Chap 3 questions on page 73 Complete research protocol outline ( <a href="http://research.sfsu.edu/protocol/submit_protocol/human_protections_forms">http://research.sfsu.edu/protocol/submit_protocol/human_protections_forms</a> )
8		Statistical principles III: sensitivity, specificity, predictive value and likelihood ratios	
9		Research designs and protocol outline feedback, and academic peer review process	Assignment: answer and discuss Chap 4 & 5 questions on pages 101 and 131 Complete presentation outline
10		Outcome assessments and academic peer review process Statistical principles IV: effect size, measurement selection	Assignment: answer and discuss Chap 6 questions on page 153 Complete protocol, consent form, related material drafts
11		RCT and adding to the RCT (RCT vs. clinical)	Assignment: answer and discuss Chap 7 questions on page 211 Complete presentation drafts
12		Case reports and small N designs	Assignment: answer and discuss Chap 9 questions on page 348 Complete final protocol and presentation
13		Choice of comparative groups, assuring adherence, appropriate random allocation, and blinding.	
14		Spurious associations: confounding, bias and	

Week	Date	Topics and Exam Schedules	Reading and Other Assignments (Include page numbers)
		random error. Presentations	
15		Review of major topics Presentations	

**Teaching Modalities:** A variety of instructional methods are used to cover the subject matter and create a dynamic, interactive learning environment. These methods include lecture, small group discussions, case studies, and reading assignments.

Required Texts and Materials:

E-BOOK: Menard, M. B. (2003). Making Sense of Research: A Guide to Research Literacy for Complementary Practitioners. Toronto, Ontario, Curties-Overzet Publications (Obtain from: <http://www.curties-overzet.com/products/ebooks.html>).

PAPER, guidelines for designing clinical trials: Witt, C. et al, (2012) Effective guidance document (EGD) for acupuncture research – a consensus document for conducting trials. *BMC, Complementary and Alternative Medicine, 12 (148)*. Doi: 10.1186/1472-6882-12-148.

PAPER, guidelines for what makes a good randomized clinical trial: Moher, D., K. F. Schulz, et al. (2001). "The CONSORT statement: revised recommendations for improving the quality of reports of parallel-group randomized trials." *Ann Intern Med* 134(8): 657-662.

PAPER, an example of published meta-analysis: McCulloch, M., C. See, et al. (2006). "Astragalus-based Chinese herbs and platinum-based chemotherapy for advanced non-small-cell lung cancer: meta-analysis of randomized trials." *J Clin Oncol* 24(3): 419-430.

PAPER, guidelines for what makes a good meta-analysis of controlled randomized trials: Moher, D., D. J. Cook, et al. (1999). "Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement. Quality of Reporting of Meta-analyses." *Lancet* 354(9193): 1896-1900.

Additional assignments may be added.

Additional Optional Resources:

BOOK FOR THOSE WHO LIKE TO WRITE: Matthews, J. R., J. M. Bowen, et al. (1996). *Successful Scientific Writing: A step-by-step guide for the biological and medical sciences*. New York, NY, University of Cambridge.

BOOK FOR THOSE WHO LOVE STATISTICS: Altman, D. G. (1990). *Practical Statistics for Medical Research*. Oxford, UK, Centre for Statistics in Medicine.

DICTIONARY FOR THOSE DESIGNING A TRIAL: Day, S. (2002). *Dictionary for Clinical Trials*. West Sussex, John Wiley & Sons Ltd.

DICTIONARY FOR THOSE DESIGNING A META-ANALYSIS: Egger, M., G. D. Smith, et al. (2001). *Systematic Reviews in Healthcare Meta-Analysis in Context*. London, BMJ Publishing Group.

BOOK FOR THOSE DESIGNING A TRIAL: Friedman, L. M., C. D. Furberg, et al. (1998). *Fundamentals of Clinical Trials*. New York, Springer-Verlag.

BOOK ON HOW TO EVALUATE PUBLISHED RESEARCH: Greenhalgh, T. (2001). *How to read a paper: The basics of evidence based medicine*. London, BMJ Publishing Group.

BOOK FOR THOSE DESIGNING A TRIAL: Institute of Medicine (2001). *Small Clinical Trials: Issues and Challenges*. Washington, D.C., National Academy Press.

BOOK ON PROTECTING RESEARCH SUBJECTS: McGuire-Dunn, C. and G. L. Chadwick (2004). *Protecting Study Volunteers in Research*. Boston, CenterWatch.

BOOK ON HOW TO EVALUATE PUBLISHED RESEARCH: Riegelman, R. K. (2000). *Studying a study and testing a test: How to read the medical evidence*. Philadelphia, Lippincott Williams & Wilkins.

BOOK ON HOW TO DO RESEARCH: Sackett, D. L., S. E. Straus, et al. (2000). *Evidence-based Medicine: How to Practice and Teach EBM*. Edinburgh, Churchill Livingstone.

**Required Class Assignments and Projects:** (Describe major assignments/graded projects)

- Please describe your requirements for major assignment and graded project here.
- All writing assignments will be typed in double space with standard fonts (12 points) and margins (1”). Manuscripts for binding should be guttered. Correct spelling, grammar, and punctuation are expected.
- Proper citation and credible reference source. College recommends using APA format for reference citation (For more information see APA (2009). *The Publication Manual of the American Psychological Association*, sixth edition. Washington, DC, American Psychological Association):
  - Journal citation: Doe J, Doe K (2012). Title of the paper. *Journal of TCM*, No. 1(2), pages 10 – 12.
  - Book citation: Doe J, Doe K (2012). Title of the Book (2<sup>nd</sup> ed.). New York, TCM Publications.
  - Website citation: Doe J. Cool Website. Retrieved from <http://www.website.org/webpage>.
  - References cannot be solely based on a Wikipedia citation. If you find information in a Wikipedia citation you must verify it with a new source.
  - Appropriate citation must be used throughout. All quotes must be cited.
- Staple paper in the upper right corner with the author’s name on the first page. Do not bind or place in a folder.

**Unit of Credit Policy**

At California Institute for Integral Studies, one credit hour is defined as a minimum of 3 hours of work by an average student for a 15-week semester (i.e., 45 hours for a full semester). That work is to be supervised by an instructor, represented in intended learning outcomes, and verified by evidence of student achievement. An hour of direct faculty instruction is defined as being the equivalent of 50 minutes of classroom time.

ACTCM at CIIS operates on the semester system with each semester containing 15 weeks of class. One credit hour would be granted for didactic courses at least 15 contact hours of lecture as well as a minimum of 30 hours of student work outside the class are required for each unit of student credit. One credit hour for a clinic course represents 30 hours of class time as well as a minimum of 15 hours of student work outside the class are required for each unit of student credit.

### Grading

Activities	Percent of total grade
Midterm	
Final exam (cumulative)	
Quizzes	
Reading assignments	25%
Projects or paper	50%
In class activities	25%
Attendance	

### Graduate Grade Scale

Grade	Indication	Quality Points per Unit
A	Outstanding	4.0
A-	Very Good	3.7
B+	Good	3.3
B	Average	3.0
B-	Below Average, but Passing	2.7
C+	Failure	2.3
C	Failure	2.0
C-	Failure	1.7
D	Failure	1.0
F	Failure	0.0

The following have no quality point value and are not used in the calculation of the GPA:

Grade	Indication
AU	Audit
AW	Administrative Withdrawal
I	Incomplete
IN	Permanent Incomplete
IP	In Progress
NP	No Pass (B- or below for graduate student)
NS	Not Satisfactory
P	Pass (B or higher for graduate student)
TR	Transfer Credit
W	Withdrawal
X	Grade Not Received from Instructor

### Grade Requirements

For graduate students to remain in good academic standing, they must have no more than two grades of B-, C+, C, C-, D, F, NP, NS, I, IN, or AW.

### Satisfactory Academic Progress

Per federal regulations, all students must maintain minimum satisfactory academic progress (SAP) each semester in order to remain eligible for financial aid:

1. Must maintain a cumulative GPA of 3.0 or above.
2. Must maintain at least half-time enrollment status each semester.
3. Must not exceed two unsatisfactory grades in overall transcript: B- through F, NS, NP, I, IN, AW.
4. Maximum timeframe: may not exceed the maximum number of years required of your program.

### **Class Policies and Expectations:**

#### Class Attendance Policy

Students are expected to attend all class meetings regularly and punctually. Students are assigned an F (Failure) or NP (No Pass) grade if they are absent from more than 20 percent of a course. This maximum includes both excused and unexcused absences. Three instances of tardiness or leaving early are considered equivalent to one absence. Instructors may permit a student to deviate from this rule on the grounds of illness necessitating confinement for 24 hours or more, a death in the family, or other extreme emergencies. The instructor may request verification of these circumstances by a letter from a medical professional, the Dean of Students, or the Academic Vice President as appropriate. Due to the nature of some courses, individual programs, departments, and instructors may enforce stricter policies than these. Check the program handbook and/or the syllabus of a course to see these policies.

#### Incompletes: Policies Regarding Faculty Granting Incompletes

Students anticipating being unable to complete a course may request permission from the instructor to receive an I (Incomplete) grade; students who have not completed the work required for a course are not to be given a passing grade in the course without completing the required work. ACTCM at CIIS courses are expected to be organized in a way that allows work to be completed during the semester the course is being offered. Below are the policies related to incomplete grades:

1. Permission to be given an I grade is given only in the following circumstances:
  - a. Medical reasons documented by a health-care professional;
  - b. A family emergency verified with supporting documentation; or
  - c. Decision by faculty member based on exceptional pedagogical reasons.
2. The instructor has the right to refuse to grant an I grade.
3. The Registrar's Office does not record an I grade without receiving an Incomplete Grade Request Form signed by the student and the instructor by the grade submission deadline. This form stipulates what coursework is remaining and its due date.
4. The instructor, not the student, determines the deadline for the remaining coursework. This deadline cannot exceed two semesters (including summer) from the last day of the semester in which the course took place, and can be earlier. The maximum deadline for an Incomplete given for exceptional pedagogical reasons is one semester. This deadline is not extended for students who are on a leave of absence, become inactive, or refrain from registering for any semester while the work remains outstanding.
5. If the student does not submit the coursework by this deadline, the I grade converts to an IN (Permanent Incomplete). An IN is irreversible.
6. Students may not graduate with an I grade on their record even in an elective course. Students may graduate with an IN grade on their record, provided that if the IN was for a required course, the student later successfully repeated the course.

7. The submission of an I grade by an instructor does not imply that that instructor will be an ACTCM at CIIS employee in a subsequent semester. It is the student's responsibility to maintain current contact information for this instructor.
8. Students may not sit in on a subsequent semester's offering of the same course in order to make up the coursework.
9. When submitting the remaining coursework, the student must include a signed Grade Change Form. The instructor uses this form to notify the Registrar's Office of the final grade.

### Dropping and Withdrawing

A drop is conducted before the semester's Add/Drop Deadline. Students may drop online through MyCIIS or by submitting a Registration Form to the Registrar's Office. Notification of a drop, written or otherwise, to the instructor, program staff, or any other CIIS office is insufficient. A drop results in a 100 percent reversal of the course's tuition charge. It does not reverse the registration fee charge.

After the Add/Drop Deadline, students may no longer drop courses. This is true even for courses that begin after the Add/Drop Deadline. They may withdraw if they have the instructor's written consent. A withdrawal results in a W on the transcript. To withdraw, submit a Registration Form to the Registrar's Office, signed by the instructor. The official date of withdrawal is the date the form is received by the Registrar's Office. The Registrar's Office does not process add or withdrawal requests submitted after the last class meeting. This is true even if the class finishes prior to the Add/Drop deadline. A partial reversal of the tuition charge may be possible depending on the date of the withdrawal. See the academic calendar for these dates. These dates are applicable regardless of when the dates the course begins and ends.

### Academic Integrity

As an academic community dedicated to the application, dissemination, and creation of knowledge, CIIS is committed to fostering an intellectual and ethical environment based on the principles of academic integrity. Academic integrity is essential to the success of the University's mission. Violations of academic integrity constitute serious offenses against the entire academic community. This academic integrity policy is designed to guide students as they prepare assignments, take examinations, write papers and perform the work necessary to complete their degree requirements.

The principles of academic integrity require that a student:

- Properly acknowledge and cite all use of the ideas, results, or words of others.
- Properly acknowledge all contributors to a given piece of work.
- Make sure that all work submitted as the student's own work in a course or other academic activity is produced by the student without the aid of unsanctioned collaboration.
- Obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with the student's interpretation or conclusions or fabricating sources, citations, or data.
- Not submit essentially the same material in more than one course without prior authorization by the faculty member.
- Treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- Uphold the canons of the ethical or professional code of the profession for which the student is preparing.

Failure to uphold these principles of academic integrity threatens both the reputation of CIIS and the value of the degrees awarded to its students. Every member of the community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

### **Disability Services**

CIIS complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. Accordingly, no otherwise qualified disabled student shall, solely by reason of their disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination in any academic, research, counseling, financial aid, or other post-secondary education program or activity that CIIS provides for all students. Students with disabilities must meet the requirements and levels of competency generally required of all students in the program. In order to assist students with disabilities in fulfilling these requirements of the program, every reasonable effort is made to accommodate special needs of such students. If you would like to request accommodations related to a disability, please contact [sds@ciis.edu](mailto:sds@ciis.edu) to register with CIIS Student Disability Services.

### **Program Competencies:**

#### Communications Skills

- Writing: Demonstrate the ability to write clearly, concisely, and with appropriate spelling, grammar and punctuation.
- Listening: Demonstrate the ability to actively listen to patients, faculty and colleagues.
- Speaking: Ability to tailor speech to your audience, and develop a well-organized presentation and ability to speak in a public setting.

#### Information Literacy

- Demonstrate the knowledge of the field you are speaking or writing about. Demonstrate that you have knowledge and skills of a licensed practitioner.

#### Critical Thinking

- Synthesis and Integration: Ability to gather and assess relevant information from many sources and divergent points of view.
- Reflective Thinking: Ability to understand your own bias and point of view when reflecting on what a patient, faculty member or colleague has stated.
- Problem Solving: Ability to break down a problem to manageable parts, examine the data and arrive at a coherent and justifiable solution.
- Analytical Skills: Ability to make inferences based on understanding of many perspectives.
- Research Skills: Ability to access data and use that data to assess a problem and infer conclusions based on the data available. The ability to understand the limitations of inferences based on sometimes incomplete data.

#### Professionalism

- Ethics: Ability to act in an ethical manner with respect to your patients, coworkers and teachers.
- Caring: Ability to interact with patients in a caring manner.
- Communication: Demonstrate consistently appropriate and professional communication in a professional and respectful manner
- Appropriate Boundaries: Ability to maintain professional boundaries with patients, colleagues and faculty.