



COURSE SYLLABUS
CE 321 CE PROJECT 1
2nd Semester SY 2020 - 2021

RSU VISION

A research-based academic institution committed to excellence and service in nurturing globally competitive workforce towards sustainable development.

RSU MISSION

Romblon State University shall:

- (1) nurture an academic environment that provides advanced education, higher technological and professional instruction and technical expertise in agriculture and fisheries, forestry, engineering and technology, education, humanities, sciences and other relevant fields of study; and
- (2) collaborate with other institutions and communities through responsive, relevant and research-based extension services.

COLLEGE GOAL

The College of Engineering and Technology (CET) is committed to provide relevant and quality training for students in engineering and related fields consistently to satisfy the needs of regional and national development trusts.

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

The Civil Engineering Program Educational Objectives and Relationship to RSU Mission:

Within 3 to 5 years after graduation, the program expects that the Civil Engineering graduates will:	MISSION	
	1	2
1) Attain technical and managerial skills in planning, design, construction, operation, management and maintenance of the built environment and global infrastructures and utilizing their skills to analyze and design systems, specify project methods and materials.	√	√
2) Establish a technical expertise and become a total engineer utilizing his knowledge in arts, sciences and communication skills in oral, written, visual and graphic modes when working as a team members or leaders, so they can actively participate in their communities and their profession.	√	√
3) Establish an understanding of professionalism, ethics quality performance, public policy, safety, and sustainability that allows them to be professional leaders and contributors to society when solving engineering problems and producing civil engineering solutions through research and development.		√
4) Initiate an active program of life-long learning, including studies leading to professional licensure or an advanced degree in engineering that provides for continued development of their technical abilities and management skills and attainment of professional expertise.		√

COURSE INFORMATION

Course Code:	CE 321
Course Title:	CE Research 1
Course Description:	<i>This course deals with the development of a capstone project proposal containing a clear set of objectives, methodology, project implementation plan/schedule and resource requirements</i>
Credit Units	2 units
Lecture hours	1
Laboratory hours	3
Pre-requisite	4 th Year standing

STUDENT OUTCOMES

Upon completion of the program, the Romblon State University Civil Engineering students will demonstrate:	PEO			
	1	2	3	4
a) An ability to apply knowledge of mathematics, physical, life and information sciences, and engineering sciences appropriate to the field of practice	√	√	√	√
b) An ability to design and conduct experiments, as well as to analyze and interpret data	√	√	√	
c) An ability to design a system, component, or process to meet desired needs within identified constraints	√	√	√	√
d) An ability to work effectively in multi-disciplinary and multi-cultural teams			√	√
e) An ability to recognize, formulate, and solve civil engineering problems	√	√	√	
f) Recognition of professional, social, and ethical responsibility	√	√	√	√
g) An ability to effectively communicate orally and in writing using the English language	√	√	√	√
h) An understanding of the effects of engineering solutions in a comprehensive context	√	√	√	√
i) An ability to engage in life-long learning and an understanding of the need to keep current of the developments in the specific field of practice.			√	√
j) Knowledge of contemporary issues			√	√
k) An ability to use techniques, skills and modern engineering tools necessary for engineering practice	√	√	√	√
l) Knowledge and understanding of engineering and management principles as a member and leader in a team to manage projects and in multidisciplinary environments			√	√
m) An appreciation of "Filipino historical and cultural heritage" (based on RA772)			√	√

COURSE OUTCOMES

Course Outcomes(COs) : At the end of the course, the student will be able to:		Student Outcomes												
		a	b	c	d	e	f	g	h	i	j	k	l	m
CO-1	Review and/or apply design concepts, design codes and engineering tools learned in previous courses and work on a real-world capstone design project in a team setting	E	D	D					D			D		
CO-2	Solve an engineering problem with technical or non-technical project constraints through the actual engineering design process	E	D	D		D			D			D		
CO-3	Collaborate with other students and function in a multidisciplinary group				D									
CO-4	Develop and enhance interpersonal skills				D									
CO-5	Develop and enhance ethical and professional responsibility						D							
CO-6	Apply project management skills to finish the project according to schedule								D					
CO-7	Practice effective communication skills through the preparation of a project proposal, engineering reports and oral project presentations							D						

Note: I - An introductory course to an Outcome
 E - Enabling
 D - Demonstrate

COURSE REQUIREMENTS

1. Online Attendance/Participation via Google Classroom/Meet-up
2. Homework/Assignments
3. Quizzes/Major Examination
4. Final Group Work/Project

COURSE GRADING SYSTEM

Grading will be as follows:

Attendance/Class Participation/Assignment/Homework/Quiz	40%
Midterm and Final Examinations/Groupwork	60%

Methods of Computation

Percentile shall be used in recording grades when evaluating students using the formula below.

$$Final\ Grade = \frac{Midterm\ Grade + Final\ Term\ Grade}{2}$$

Grades Equivalent

<i>Rating</i>	<i>Grade</i>
96 - 100	1.00
91 - 95	1.25
86 - 90	1.50
81 - 85	1.75
76 - 80	2.00
71 - 75	2.25
66 - 70	2.50
61 - 65	2.75
60	3.00
Conditional	4.00
Below 60	5.00

CONDITIONAL is not a grade. It is given to students that lacks necessary requirements and therefore, must be accomplished before the end of that semester to obtain a grade. INCOMPLETE (INC) is reflected in the university online grading/report system as a mark given to the students for major compliance in the subjects which requires a Completion Form from the Registrar to be filled-up and accomplished within a year, otherwise noncompliance is a final grade of 5.0. WITHDRAW (W) is also reflected in the online grading/report system to indicate that the student withdraw or did not finish/complete the subject.

COURSE POLICIES

- Online login/participation is necessary for each student to obtain maximum benefits for instruction. It is expected that the students regularly visit the websites (Weebly, Google Classroom; and Canvas or Moodle are optional platforms); and active participation in the online discussion/forums will be monitored regularly. Observe proper online etiquette (politeness) in posting messages in the discussion forums.
- Projects and online homework/assignments must be submitted on time. Point deduction will apply to late submission of individual projects and homework/assignments. Online quizzes will be given on a specified time and to be announced ahead of time. Make-up online quizzes will be given only for those who have valid reasons of missing the quizzes/examinations.
- Online major examinations (Mid-term and Final) are optional and to be announced ahead of time. Make-up online examinations will be given depending on the availability of the students. It might be given on-site or face-face provided that necessary arrangements will be made.
- Lacking in assignments/quizzes/examinations at the end of the course, automatically marks INCOMPLETE GRADE, unless submitted prior to the submission of the final grades to the Registrar.
- **Students are required to have a notebook for the subject.** It is expected that all students will take notes during class and will study these notes. Handouts should be downloaded or photocopied.

Assignments will be handwritten in the notebook and images/photos of these assignments will be submitted electronically via Google Classroom.

- No sharing of homework/assignments electronically or any means of copying others outputs.
- Personal laptops, cell phones and other electronic gadgets are strongly encouraged to use for the online learning. Visit to computer shops are still acceptable but maintain social distancing and wearing ng face masks/shields.
- Face-to-face group studying and peer teaching are also encouraged to enhance the knowledge and skills but proper protocols such as social distancing and wearing of face masks and shields will be strictly observed.
- Any form of online cheating will not be tolerated. Any violation will be dealt properly.
- **Plagiarism is not tolerated in the preparation of written reports, thus proper citation and referencing are necessary.**

STUDENTS WITH SPECIAL NEEDS

Students who have any disability that might affect their performance in the online class are encouraged to speak with the instructor early in the semester to address their needs.

COURSE OUTLINE (BLENDED)

Week	Topic	Course Outcome (CO) Learning Outcome (LO)	Teaching-Learning Activities	Assessment Technique/ Task
1	Pre-recorded Online College Orientation via CET Facebook Page Online Course Orientation via Google Classroom/Meet-up, Weebly (while CANVAS and MOODLE are optional platforms) concerning course syllabus/contents, class policies and requirements on the online learning modalities	LO1 Familiarize the online learning modalities of the university, including the course platform through Google Classroom/Meet-up and alternative online learning systems and course coverage and requirements	Present the course design thru multi-media presentation and websites Watch the pre-recorded online university/college orientation video presentation Module #1/Handout#1 and other reading/reference materials are downloaded from the website Lecture, Class Discussion, Question/Answer (Q/A)	Reflective short essay

	<p>Introduction of CE Project Course</p> <p>Project Team Composition/Grouping</p> <p>Summary Profile of Previous Thesis submitted to the college</p> <p>Thesis and Capstone Distinguished and Coverage</p> <p>Meaning and Characteristics of Research</p> <p>Importance/Relevance of Conducting a Research</p>	<p>LO2 Differentiate thesis with capstone project</p> <p>LO3 Create a summary list of research or capstone projects from the list of previous thesis (research projects) submission in the college that are aligned with the course outcomes as capstone project and specialized professional courses</p> <p>LO4 Explain the importance of conducting a research and its basic components of the research process</p> <p>CO1 Review and/or apply design concepts, design codes and engineering tools learned in previous courses and work on a real-world capstone design project in a team setting</p>	<p>Lecture, Group Discussion/Q&A</p>	<p>Assignment Homework</p> <p>Google Classroom Forum/Participation</p>
2-3	<p>Capstone Course Model in Civil Engineering Program</p> <p>Best capstone projects for Civil Engineering Students</p> <p>Coverage and Format of the Undergraduate Thesis (Contents/Chapters) and Capstone Project</p> <p>Ethical Issues in the Conduct of Research</p> <p>Desired Attributes of an Engineer</p>	<p>LO5 Have a general overview on how to do a thesis or capstone project</p> <p>LO6 Create a list of potential or possible research or capstone project topics</p> <p>CO3 Collaborate with other students and function in a multidisciplinary group</p>	<p>Module #2/Handout#1 and other reading/reference materials are downloaded from the website</p> <p>Lecture, Class Discussion, Google Classroom Forum Question/Answer (Q/A)</p>	<p>Assignment Homework</p> <p>Google Classroom Forum/Participation</p>
4-5	<p>Components of the Research Process</p> <p>Research Problem and Objectives</p> <p>Theoretical and Conceptual Framework</p> <p>Review of Related Literature/Journal Critiquing</p> <p>APA Citation, Referencing and Plagiarism</p>	<p>CO5 Develop and enhance ethical and professional responsibility</p> <p>LO7 Familiarize the main steps in the conduct of a research project</p> <p>LO8 Formulate the statement of the problem or</p>	<p>Module #3/Handout#1 and other reading/reference materials are downloaded from the website</p> <p>Lecture, Class Discussion, Question/Answer (Q/A)</p>	<p>Google Classroom Forum/Participation</p> <p>MidTerm Examination</p> <p>Progress Group Work Report</p>

	Research Instrument and Design	objectives of the research project LO9 Familiarize with APA style of citation and referencing to avoid plagiarism		
6-7	Data Collection, Sampling and Data Analysis Processing and Statistical Analysis and Data Interpretation	L10 Determine data requirements and appropriate statistical tools/techniques appropriate in the research project	Module #4/Handout#1 and other reading/reference materials are downloaded from the website Lecture, Class Discussion, Question/Answer (Q/A)	Assignment Google Classroom Forum/Participation
8-9	Writing-up of the Capstone Project Proposal Suggested Guidelines for Developing a Capstone Project Proposal Guidelines for Developing a Capstone Project Proposal	CO2 Solve an engineering problem with technical or non-technical project constraints through the actual engineering design process CO4 Develop and enhance interpersonal skills L11 Write appropriately the capstone project proposal L12 Function effectively as a team to accomplish the final capstone research proposal	Module #5/Handout#1 and other reading/reference materials are downloaded from the website Lecture, Class Discussion, Question/Answer (Q/A) Feedbacks/Comments	Group Progress Report
10-11	Capstone Project Proposal Documentation – Strategies and Resources Requirements, Timeline/Schedule, Client/Proponent (if applicable); Project Risk Assessment	Same of CO1-CO3 and L12 L13 Determine the appropriate strategies and resources needed in the conduct of the proposed capstone research project		Group Progress Report
12-13	Finalization of the Capstone Project Proposal	Same of L12 CO5 Develop and enhance ethical and professional responsibility CO6 Apply project management skills to	Lecture Class Discussion Question/Answer (Q/A) Feedbacks/Comments	Group Progress Report

		finish the project according to schedule L14 Revise appropriately the capstone project proposal		
14-15	Capstone Project Proposal Presentation Final Report Submission Grade Submission	Same of L12 CO7 Practice effective communication skills through the preparation of a project proposal, engineering reports and oral project presentations L15 Record a video of the final output presentation with proper and effective oral communication	Online or Pre-recorded Video Presentation Feedbacks/Comments	Group Progress Report Final Defense/ Capstone Project Proposal Presentation Capstone Project Proposal Report Pre-recorded video recording Rubrics

LIST OF RESOURCES

Relevant Websites

www.rsucivilengineering.weebly.com

www.brainitiativesph.com

<https://classroom.google.com/u/2/c/MjY1Mzc0MTY1Nzlw>

Class code: nupi45u

<https://rsu2020.moodlecloud.com/>

Reading Materials

Required Readings

Hoffman, H.F. (2014). *The Engineering Capstone Course – Fundamentals for Students and Instructors*, London: Springer Cham Heidelberg. Retrieved from <https://www.pdfdrive.com/the-engineering-capstone-course-fundamentals-for-students-and-instructors-e177323539.html>

University of Technology Sydney (2015). *Student Guide to Capstone Project – For students commencing Capstone Project in Autumn 2015*. Retrieved from <https://www.pdfdrive.com/student-guide-to-capstone-project-feit-student-intranet-e14960068.html>

University of Waterloo (n.d.). *Capstone projects: past & present*. Retrieved from <https://uwaterloo.ca/civil-environmental-engineering/capstone-projects-past-present>

University of Waterloo (n.d.). *Capstone Design*. Retrieved from <https://uwaterloo.ca/capstone-design/>

University of Waterloo (n.d.). *Capstone Design Videos*. Retrieved from <https://uwaterloo.ca/capstone-design/videos/>

Suggested Additional Reading Materials

Albert, J. R. (2008). *Basic Statistics for the Tertiary Level*, Padua, Patungan & Marquez (eds), Manila: Rex Book Store

Ariola, M. (2016). *Principles and Methods of Research*, 1st Edition, Quezon City: Rex Store, Inc.

Asaad, A. S. (2008). *Statistics Made Simple for Researchers*, Manila: Rex Book Store, Manila

Calderon, J. & Gonzales, E. (2016). *Methods of Research and Thesis Writing*, Mandaluyong City: National Book Store

Castillo, F. S. (2007). *Research Education and Scientific Writing*, Latest Edition, Manila: Booklore Publishing Corporation

Finkelsten, L. Jr (2005). *Pocket Book of Technical Writing for Engineers and Scientists*, 2nd Edition, McGraw-Hill (Asia)

Fraenkel, K. R., Wallen, N. E., and Hyun, H. H. (2013). *How to Design and Evaluate Research in Education*, 8th Edition, New York, USA: McGraw-Hill International Edition

Frankfort-Nachmias, C., and Nachmias, D. (1997). *Research Methods in the Social Sciences*, 5th Edition, London: Arnold

Fraenkel, K. R., and Wallen, N. E. (2010). *How to Design and Evaluate Research in Education*, 7th Edition, New York, USA: McGraw-Hill International Edition

Garcia, G. A. (2003). *Fundamental Concepts and Methods in Statistics (Part 1)*, Philippines: UST Publishing House

Garcia, G.A. (2004). *Fundamental Concepts and Methods in Statistics (Part 2)*, Philippines: UST Publishing House

Hair, J., Celsi, M., Ortinau, D. and Bush, R. (2017). *Essentials of Marketing Research*, 4th Edition, New York: McGraw Hill Education

Jha, A. S. (2011). *Research Methodology*, Delhi, India: APH Publishing Corporation

Mustafa, A. (2010). *Research Methodology*, India: AITBS Publishers

Paler-Calmorin, L, & Calmorin, M. A. (2007). *Research Methods and Thesis Writing*, 2nd edition, Manila: Rex Book Store

Sanchez, C. A. (1997). *Methods Techniques of Research*, 3rd Edition, Manila: Rex Book Store

Tayie, S. (2005). *Research Methods and Writing Research Proposals*, Pathways to Higher Education Project, Center for Advancement of Postgraduate Studies and Research in Engineering Sciences, Faculty of Engineering – Cairo University

Trinidad, J.E (2018). *Researching, Philippine Realities: A Guide to Qualitative, Quantitative, and Humanities Research*, Quezon City: Ateneo De Manila University Press

Walliman, N. (2018). *Research Methods the Basics*, Second Edition, London and New York: Routledge Taylor & Francis Group

INPUTS/REMARKS:

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