



University of Puerto Rico
Mayagüez Campus
College of Engineering
Department of Mechanical Engineering
Bachelor of Science in Mechanical Engineering



Course Syllabus

1. General Information: Alpha-numeric codification: INME 4998 Course Title: Undergraduate Research Number of credits: 1-6 Contact Period: Three to twenty-four hours or research per week
2. Course Description: English: Participation, under the supervision of a faculty member acting as an investigator, in a research project. Spanish: Participación bajo la supervisión de un profesor que actúe como investigador en un proyecto de investigación.
3. Pre/Co-requisites and other requirements: Prerequisites: Fourth or fifth year student and Authorization of the Director of the Department
4. Course Objectives: Upon the completion of this course, the student should be able to: <ul style="list-style-type: none">• Carry out basic Mechanical Engineering research and be able to independently acquire information about literature and problems in the area;• Check experimental data• Hypothesizing mechanisms• Critique previous publications• Experiment in new areas of Mechanical Engineering• Construct and test new devices• Detect mechanisms• Monitor data acquisition• Communicate effectively by documenting research progress, writing and submitting a report• Prepare and hold a seminar presentation in some area of modern Mechanical Engineering research.
5. Instructional Strategies: <input type="checkbox"/> conference <input type="checkbox"/> discussion <input type="checkbox"/> computation <input type="checkbox"/> laboratory <input type="checkbox"/> seminar with formal presentation <input type="checkbox"/> seminar without formal presentation <input type="checkbox"/> workshop <input type="checkbox"/> art workshop <input type="checkbox"/> practice <input type="checkbox"/> trip <input type="checkbox"/> thesis <input type="checkbox"/> special problems <input type="checkbox"/> tutoring <input checked="" type="checkbox"/> research <input type="checkbox"/> other, please specify:
6. Minimum or Required Resources Available: Materials, equipment, and physical facilities needed to fulfill the course objectives.

7. Course time frame and thematic outline																																			
General Topics	Contact Hours																																		
Independent literature review, computational or experimental work	15-90																																		
Total hours: (equivalent to contact period)	15-90																																		
8. Grading System																																			
<input checked="" type="checkbox"/> Quantifiable (letters) <input type="checkbox"/> Not Quantifiable																																			
9. Evaluation Strategies																																			
<table border="1"> <thead> <tr> <th></th> <th>Quantity</th> <th>Percent</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> Exams</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Final Exam</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Short Quizzes</td> <td></td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> Oral Reports</td> <td>1-3</td> <td>25-75</td> </tr> <tr> <td><input type="checkbox"/> Monographies</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Portfolio</td> <td></td> <td></td> </tr> <tr> <td><input checked="" type="checkbox"/> Projects</td> <td>1-3</td> <td>25-75</td> </tr> <tr> <td><input type="checkbox"/> Journals</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Other, specify:</td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">TOTAL:</td> <td></td> <td>100%</td> </tr> </tbody> </table>				Quantity	Percent	<input type="checkbox"/> Exams			<input type="checkbox"/> Final Exam			<input type="checkbox"/> Short Quizzes			<input checked="" type="checkbox"/> Oral Reports	1-3	25-75	<input type="checkbox"/> Monographies			<input type="checkbox"/> Portfolio			<input checked="" type="checkbox"/> Projects	1-3	25-75	<input type="checkbox"/> Journals			<input type="checkbox"/> Other, specify:			TOTAL:		100%
	Quantity	Percent																																	
<input type="checkbox"/> Exams																																			
<input type="checkbox"/> Final Exam																																			
<input type="checkbox"/> Short Quizzes																																			
<input checked="" type="checkbox"/> Oral Reports	1-3	25-75																																	
<input type="checkbox"/> Monographies																																			
<input type="checkbox"/> Portfolio																																			
<input checked="" type="checkbox"/> Projects	1-3	25-75																																	
<input type="checkbox"/> Journals																																			
<input type="checkbox"/> Other, specify:																																			
TOTAL:		100%																																	
10. Bibliography:																																			
Textbook:																																			
Charity–Hudley, A.H., Dickter, and C.L., Franz, H.A. (2017) <i>The Indispensable Guide to Undergraduate Research: Success in Beyond College</i> . NY, NY: Teachers College Press.																																			
11. Law 51: The Comprehensive Educational Services Act for People with Disabilities:																																			
States that after identifying with the instructor and the institution, the student with disabilities will receive reasonable accommodation in their courses and evaluations. For more information, contact the Department of Counseling and Psychological services at the Office of the Dean of Students (Office DE 21) or call 787-265-3864 or 787-832-4040 x 3772, 2040 and 3864.																																			
12. Academic Integrity																																			
The University of Puerto Rico promotes the highest standards of academic and scientific integrity. Article 6.2 of the UPR Students General Bylaws (Board of Trustees Certification 13, 2009-2010) states that academic dishonesty includes, but is not limited to: fraudulent actions; obtaining grades or academic degrees by false or fraudulent simulations; copying the whole or part of the academic work of another person; plagiarizing totally or partially the work of another person; copying all or part of another person answers to the questions of an oral or written exam by taking or getting someone else to take the exam on his/her behalf; as well as enabling and facilitating another person to perform the aforementioned behavior. Any of these behaviors will be subject to disciplinary action in accordance with the disciplinary procedure laid down in the UPR Students General Bylaws.—																																			
13. Certification 06-43 of the Academic Senate																																			
"The academic guidelines for offering online courses," defines: Traditional face-to-face courses are those that have less than 25% of the course's regular contact hours via the Internet. Therefore, a three-credit course will be considered "face to face" if, of the 45 hours of regular contact, 11 or less are taught via the Internet. According to certification 06-43 of the Academic Senate, a course may include up to 25% of its total contact hours via the Internet. The objective of this is so that all professors have this alternative in the case of any unscheduled eventuality.																																			

14. Sexual Harassment: Certification 130-2014-2015 states:

Sexual harassment in the workplace and in the study environment is an illegal and discriminatory act and is against the best interests of the University of Puerto Rico. All persons who understand they have been subject to acts of sexual harassment at the University of Puerto Rico may file a complaint and request that the institution investigate, where necessary, and assume the corresponding action by the university authorities. If the complainant is a student, he or she must refer his or her complaint to the Office of the Student Ombudsperson or that of the Dean of Students.

Revised: February, 2019