

# 99-1 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	車輛動力系統	Serial No. / ID	1547 / MAI3031
Dept.	機械與自動化工程學系	School System / Class	大學日間部3年5班
Lecturer	張一屏	Full or Part-time	專任
Required / Credit	Optinal / 3	Graduate Class	No
Time / Place	(二)34 / H440 (三)5 / H440	Language	Chinese

Introduction
<p>Establish the capability to anaysis, evaluate, and the method to improve the performance of vehicle power plant system . Teach the principles and combustion modeling according to gasoline and diesel engine combustion control systems. Study the parameter effects on the engine torque, horsepower, fuel economy and exhaust emissions. The course also introduce the background and principles for electric and hybrid power plant systems .</p>

Outline
<ol style="list-style-type: none"> <li>1.Vehicle powertrain system introduction</li> <li>2.Internal combustion engines subsystems</li> <li>3.Gasoline engine exhaust emission control</li> <li>4.Gasoline engine ignition system control</li> <li>5.Gasoline engine fuel system</li> <li>6.Diesel engine control system design</li> <li>7.Diesel engine spray atomization and fuel injection system.</li> <li>8.Engine dynamic simulation</li> <li>9.Vehicle transmission control system</li> <li>10.Continuous Variable Transmission control simulation</li> <li>11.Four wheel drive and anti-skid differential control.</li> <li>12.Vehicle traction motor system</li> <li>13.Motor performance and control</li> <li>14.Vehicle fuel cell performance requirements.</li> <li>15.Hybrid electric vehicle power requirement and control.</li> </ol>

Prerequisite
Thermodynamics, Chemistry, Engineering mathematics, Mechanics of Materials, Automotive mechanics.