5-11-2015

SR-14-15-44 CC

Marshall University

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CURRICULUM COMMITTEE
RECOMMENDATION

SR-14-15-44 CC

NOTE: The curricular form for each item listed may be accessed at www.marshall.edu/senate/ucc. Click the UCC Agendas/Minutes link; click the link for the April 3, 2015 meeting date; click the link in the Description column to open a particular item.

Recommends approval of the listed UNDERGRADUATE COURSE ADDITIONS in the following colleges and/or schools/program: COLLEGE OF LIBERAL ARTS, COLLEGE OF ARTS & MEDIA, COLLEGE OF HEALTH PROFESSIONS, and COLLEGE OF INFORMATION TECHNOLOGY & ENGINEERING.

- **COLLEGE OF LIBERAL ARTS:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL 476</td>
<td>Rome: The Eternal City</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>*Course Description: On-site study of the archaeology and material culture of ancient Rome in its social, literary, and historical context. Taught in English in Rome, Italy (students fund their own travel). *Pre-requisite(s): ENG 101, CL 436 and permission</td>
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- **COLLEGE OF ARTS & MEDIA:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ART 459</td>
<td>Digital Drawing and Painting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>*Course Description: Students will create conceptual illustrations for books, gaming, storyboards, and movies by integrating traditional drawing and painting techniques with digital media. *Pre-requisite(s): ART 218 and 219</td>
<td></td>
</tr>
<tr>
<td>MUS 271</td>
<td>Guitar Techniques</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>*Course Description: The study of guitar techniques that will allow students to play and teach guitar at a basic level in a public school music program. *Pre-requisite(s): None</td>
<td></td>
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- **COLLEGE OF HEALTH PROFESSIONS:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MI 213</td>
<td>Elective Clinical Practicum I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>*Course Description: Elective clinical practicum in radiography or sonography. *Pre-requisite(s): None</td>
<td></td>
</tr>
<tr>
<td>MI 320</td>
<td>Elective Clinical Practicum II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>*Course Description: Elective clinical practicum in radiography or sonography. *Pre-requisite(s): None</td>
<td></td>
</tr>
<tr>
<td>MI 321</td>
<td>Imaging Procedures III</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>*Course Description: Content is designed to provide the knowledge necessary</td>
<td></td>
</tr>
</tbody>
</table>
for advanced diagnostic radiographic imaging procedures.
*Pre-requisite(s): MI 205, MI 207

**MI 431 Advanced Clinical Practice III** 4 hours
*Course Description: Elective advanced clinical practicum in radiography or sonography.
*Pre-requisite(s): Senior status or ARRT certification, ACLS certification

**COLLEGE OF INFORMATION TECHNOLOGY & ENGINEERING:**

**ENGR 245 Intro to Circuits and Controls** 3 hours
*Course Description: Basic DC and AC electric circuit analysis including: variables, measurement, laws, methods, three phase circuits, and basic control theory. Includes the use of computer applications and PLC based controls.
*Pre-requisite(s): A Concurrent PR: MTH 230

**ME 310 Thermodynamics II** 3 hours
*Course Description: Gas, vapor, combined power cycles, co-generation, entropy, combustion, fuel cells, and equations of state.
*Pre-requisite(s): ENGR 219

**ME 320 Fluid Power** 3 hours
*Course Description: This course covers physical principles of fluid power, fluid power cylinders, control valves, fluid power components: compressors, pumps, valves, cylinders, and motors, fluid power circuits, troubleshooting: hydraulic, symptoms, procedures, pneumatics.
*Pre-requisite(s): ENGR 214 and ENGR 216

**ME 325 Mechanical Engineering Lab-I** 1 hour
*Course Description: Experimental laboratory mainly from within the thermo-fluids area, concerned with fluid statics, flow, heat transfer, internal combustion engines, data acquisition, analysis, including use of computers. Principles of good experimental design.
*Pre-requisite(s): ENGR 318; Concurrent PR: ME 350

**ME 330 Manufacturing Methods/Design** 3 hours
*Course Description: This course covers economical production by understanding the capabilities of different manufacturing processes, candidate manufacturing processes for a given part, performing manufacturability evaluation at the design stage, automation, IMS.
*Pre-requisite(s): ENGR 102 and ENGR 215

**ME 340 Machine Element Design** 3 hours
*Course Description: Mechanical design of machine elements, static and fatigue failures, shaft systems, bearings, gears, springs, screws, and fasteners.
*Pre-requisite(s): ENGR 214, 216: Concurrent PR MTH 231
ME 350  Heat Transfer  3 hours
*Course Description: Analysis and solutions of conduction, free and forced convection, an radiation heat transfer, an design of heat exchangers.
*Pre-requisite(s): ENGR 219 & ENGR 318

ENGR 217  Engineering Co-Op Preparation  1 hour
*Course Description: To prepare students for both the job search and employment in the field of engineering. Students will learn strategies for conducting a successful Co-Op.
*Pre-requisite(s): ENGR 102

ME 410  Kinematics & Design of Machine  3 hours
*Course Description: The determination of the motion and forces of machines and mechanisms including rotating machinery, cams and gears. Analyze position, velocity, accelerations, static loads, and dynamic loads.
*Pre-requisite(s): ME 340

ME 420  Instrumentation and Control  3 hours
*Course Description: This course provides an overview of the instrument characteristics and measurement principles. Concept of control, open and closed-loop control systems.
*Pre-requisite(s): ENGR 245

ME 425  Mechanical Engineering Lab-II  1 hour
*Course Description: Engineering measurements and experimentations. Hands-on labs and data analyses in several major topics of the Mechanics of Materials theory and Theory of Machines.
*Pre-requisite(s): ME 340

ME 430  Design of Thermal Systems  3 hours
*Course Description: Design and analysis of thermal systems including components selection and integrations.
*Pre-requisite(s): ME 350

ME 435  Design of Mechanical System  3 hours
*Course Description: Problem solving methodology in the design, analysis, and synthesis of mechanical systems. Engineering design process involving modeling, computer simulation, concepts of optimization, robustness, reliability, sustainability.
*Pre-requisite(s): ME 410

ME 440  Design Analysis Energy Systems  3 hours
*Course Description: Design characteristics and operational performance of energy systems.
*Pre-requisite(s): ME 350

ME 445  Hydraulic & Pneumatic Control  3 hours
*Course Description: This course covers standard symbols, pumps,
control valves, assemblies, actuators, filter regulator lubricator (FRL),
maintenance procedures, switching, control devices, fluid power system,
fluid power circuits including design, application, and troubleshooting.
*Pre-requisite(s): ENGR 240, ME 320

ME 447 Engineering Analysis
*Course Description: Experimental laboratory mainly from within the
thermo-fluids area, concerned with fluid statics, flow, heat transfer,
internal combustion engines, data acquisition, analysis, including use of
computers. Principles of good experimental design.
*Pre-requisite(s): MATH 335

ME 450 CNC and Rapid Prototyping
*Course Description: This course covers CNC CAD/CAM, CNC tools,
coordinate systems, CNC programming language, CNC operation, CNC
tool paths, CNC turning, G/M code reference, CNC milling work-holding,
rapid prototyping, 3D printing.
*Pre-requisite(s): ENGR 240

ME 455 Metallurgy
*Course Description: Covers material properties and behavior of pure
metals and common metal alloys. Discuss various aspects of extractive,
mechanical, physical metallurgy, theory and practice identification, selection,
processing, conditioning, and testing.
*Pre-requisite(s): ENGR 215

ME 460 Vibrations
*Course Description: Modeling of vibratory motion of single and multiple
degree of freedom systems; free and forced response; modal summation
method for response predictions; simulation of the vibration by using Matlab.
*Pre-requisite(s): ENGR 214, MTH 335

ME 465 Mechatronics
*Course Description: Dynamic analysis of mechatronic systems, sensors,
transducers, and electric circuits and control.
*Pre-requisite(s): ENGR 245, MTH 345

ME 480-483 Special Topics
*Course Description: Subject matter to be selected from topics
of current interest.
*Pre-requisite(s): Permission

ME 485-488 Independent Study
*Course Description: Individual study of advanced mechanical
ingineering areas.
*Pre-requisite(s): Permission
FACULTY SENATE CHAIR:

APPROVED BY THE FACULTY SENATE:  Larry, Stickle  DATE: 5/11/2015

DISAPPROVED BY THE FACULTY SENATE:  DATE:

UNIVERSITY PRESIDENT:

APPROVED:  DATE: 6/11/15

DISAPPROVED:  DATE: