SCHOOL OF ENGINEERING

Graduate Student Handbook *2007-2008*

June 1, 2008

UNF School of Engineering

MS Programs

Master of Science in Civil Engineering (MSCE)
Master of Science in Electrical Engineering (MSEE)
Master of Science in Mechanical Engineering (MSME)

General Information

Mission

The mission of each UNF Master of Science program is to prepare students to function in a demanding technical environment where their advanced engineering education will allow them to solve uncommon problems in their field of expertise. Through our commitment to engineering research and requiring students to participate in such activities we will provide opportunities for expanded content knowledge and development of critical thinking skills outside of a classroom setting. Students graduating with an MS in Civil, Electrical, or Mechanical Engineering will receive the education that allows them to pursue a doctoral degree.

Learning Outcomes

A student receiving the MSCE, MSEE, or MSME degree from the UNF School of Engineering:

Content Knowledge
- understands the theoretical basis for current practice in one or more areas of their chosen discipline.
- is knowledgeable about recent engineering advances in design, analysis, and construction.
- is able to apply advanced mathematics, advanced analytical techniques, and advanced numerical techniques to solve engineering problems.
- is able to obtain and analyze relevant data from advanced testing and characterization equipment.

Critical Thinking
- is able to identify and understand the assumptions in the important theories pertinent to one or more areas of their chosen discipline.
- is able to identify and understand the data required to solve engineering problems.
- is able to form conclusions and recommendations through advanced engineering analyses informed by the understanding of applicable engineering principles and theories.

Communication Skills
- is able to present technical data, analyses, and conclusions to their peers.
- is able to present technical data, analyses, and conclusions to the non-engineering community.
- is able to speak in an informed and convincing manner.

Outcomes Assessment

The learning outcomes listed above involve depth of knowledge within a specific area of the student's chosen engineering discipline, critical thinking ability, and communications skills. These outcomes are achieved by the successful completion of a cohesive program of study leading to an acceptable thesis or practice-oriented project. The master's thesis is an original work that adds to the understanding of an engineering problem. The practice-oriented project addresses the solution of a practical engineering problem. Both require the deep knowledge and critical thinking skills developed in the program of study to advance engineering knowledge or solve an engineering problem. In addition, the successful completion of a thesis or project requires well-developed writing and oral communications skills. This capstone experience is the most direct measure of the outcomes enumerated above.

The second measure is the dissemination of the thesis or project work in the peer-reviewed, archival literature. A practice-oriented project should produce, at a minimum, one conference proceedings paper. In the case of the thesis, multiple peer-reviewed papers in the archival literature are expected. These papers are typically co-authored by the student and his or her advisor.

Admission

In addition to the UNF graduate admissions requirements, a student wishing to enter the MSCE, MSEE, or MSME program must have:

- A baccalaureate degree in the commensurate engineering discipline (e.g.., a BSCE degree for admission to the MSCE program) from an ABET-accredited program or its demonstrable equivalent. Students with international degrees must have their credentials evaluated by an approved credential evaluation agency. Contact the Office of Graduate Studies for the list of approved evaluation agencies.
- A 3.0 grade point average or higher (on a 4.0 scale) for all work attempted as an upper-level student, typically the last 60 credits of undergraduate work.
- A combined score on the verbal and quantitative sections of the Graduate Record Examination (GRE) of 1000, with a minimum of 550 in the quantitative section. GRE scores cannot be more than five years old.
- A minimum score of 550 (PBT), 213 (CBT), or 80 (iBT) on the Test of English as a Foreign Language (TOEFL) (for students from non-English speaking countries only).
- Three letters of recommendation attesting to the student's potential for graduate studies in a chosen field. At least one letter must come from a professor at the student's undergraduate institution.

All applications are reviewed on a case-by-case basis. Any deviation from the above requirements may result in provisional admission to the program. Full admission is based on the successful completion of remedial actions deemed necessary and appropriate by the faculty. One of the more common exceptions is made for students without a BS in the same discipline being pursued at the graduate level. These students may be admitted to their chosen MS program on a provisional basis and granted full admission after completion of a suite of undergraduate background courses determined by the Supervisory Committee (see discussion below). All

required undergraduate background courses must be completed before attempting graduate coursework.

General Requirements

Students select one of two degree options: (1) thesis option or (2) project option. The thesis option consists of a minimum of 30 credit hours. The 30 credit hours consist of a minimum of 24 credit hours of course work and 6 credit hours to complete a thesis. The project option consists of a minimum of 30 credits. The 30 credit hours consist of a minimum of 27 credit hours of coursework and 3 credit hours to complete a practice-oriented project. Regardless of the option, the student must complete all graduate coursework with a 3.0 grade point average. Pass-fail courses may not be used to satisfy the coursework requirement.

The number of credits that can be transferred from other institutions is limited to 6 credit hours, with the exception that students may transfer up to 12 credits from the Florida Engineering Education Delivery System (FEEDS) provided that the total of FEEDS courses and other transfer courses does not exceed 12 credit hours. This limitation does not apply to FEEDS courses offered by UNF.

Student Graduate Advisor and Graduate Committee

Each entering graduate student will be assigned a Graduate Advisor by the Director of Engineering based on his or her area of interest. The Graduate Advisor must be a tenure-track or tenured professor in the appropriate Engineering program. The Graduate Advisor and student will choose a Supervisory Committee that will be made up of two tenure-track or tenured UNF engineering professors in the student's chosen discipline and one outside member who must be a tenure-track or tenured professor at UNF or another academic institution. Additional members may be added from industry or affiliated faculty in the School of Engineering, if approved by the Graduate Advisor. The Graduate Advisor will serve as chair of the committee. The Graduate Advisor also approves the selection of the thesis option or the project option.

The Program of Study

The details of the program of study for each MS degree are found later in this document.

The Thesis

The master's thesis is an original work that adds to the understanding of an engineering problem. Work on a thesis is initiated by the completion and approval of a thesis proposal submitted to the Supervisory Committee and, upon approval, to Graduate School. Completion of a thesis is an intense experience and most students will find that much of their academic effort for at least two semesters will focus on its completion. The thesis is presented at an oral defense, typically in the last semester. The oral defense is attended by the Supervisory Committee and other interested members of the School of Engineering community including faculty, staff, and students. The location and time for the oral defense is posted on the School of Engineering website at least one week before the defense. The Supervisory Committee determines the format of the defense and, in closed discussion at the conclusion of the defense, if the defense was successful and the thesis acceptable. If the Supervisory Committee deems the oral defense successful and the thesis

acceptable, the thesis is then presented to the Director of the School of Engineering for review and approval. Subsequently, the Dean of the College of Computing, Engineering, and Construction and the Dean of the Graduate School review the thesis and make their own judgments as to its suitability. The student must address any deficiencies raised at any level in the review process before the thesis is presented to the next higher level. Specific policies and timetables regarding the submission of a thesis proposal and completion of a thesis are found at the Graduate School website, http://www.unf.edu/graduatestudies/enrolled/thesis_policies.html.

The Practice-Oriented Project

The practice-oriented project addresses the solution of a practical engineering problem. The Supervisory Committee approves the project topic. A project report is completed and presented at a seminar in the student's penultimate or last semester. This seminar is attended by the Supervisory Committee and other interested members of the School of Engineering community including faculty, staff, and students. The Supervisory Committee determines the format of the seminar and, in closed discussion at the end of the seminar, if the project presentation and report are acceptable. If the Supervisory Committee deems the presentation successful and the report acceptable, the report is then presented to the Director of the School of Engineering for review and approval. The student must address any deficiencies raised at any level in the review process before the report is presented to the next higher level.

Florida Engineering Education Delivery System (FEEDS)

The Florida Engineering Education Delivery System (FEEDS) delivers academic programs to engineers worldwide. Delivery sites include university FEEDS centers, industry and government agency sites, and the internet. Course materials originate at FEEDS centers which are located in the colleges and schools of engineering of Florida institutions having accredited degree programs. Florida Agricultural and Mechanical-Florida State Universities (FAMU -FSU), Florida Atlantic University (FAU), Florida International University (FIU), The University of Central Florida (UCF), The University of Florida (UF), The University of South Florida (USF), University of Miami (UM), Florida Institute of Technology (FIT), and Embry Riddle Aeronautical University (ERAU), and the University of North Florida (UNF) are the institutions housing these FEEDS centers. Florida Gulf Coast University (FGCU), and The University of West Florida (UWF) serve as FEEDS centers, facilitating the delivery of degree programs and courses in their respective geographic areas. Many participating industry and government agency receiving locations make up the remainder of the FEEDS sites. FEEDS was developed in response to the need of engineering graduates working in industry for access to quality graduate programs and extended studies in engineering. FEEDS, in effect, provides a unique university experience for place-bound engineers. The innovative use of electronic, computer, and telecommunications media brings students and professors together intellectually, regardless of location.

Undergraduate Background Courses for Students without Baccalaureate Degrees in Engineering

Normally, a student must have a BS degree from an ABET-accredited program to be admitted to an MS program in the School of Engineering. However, exceptional students from other disciplines may be admitted. In these cases, students will be required to complete a body of

undergraduate coursework in order to ensure they are prepared for graduate coursework in engineering. The specific courses are determined by the Supervisory Committee. The set of undergraduate courses required by the Supervisory Committee must be completed before any graduate courses are attempted. Equivalent courses may be completed at other institutions with the permission of the Graduate Advisor.

Mathematics (15 credits)

- A full calculus sequence, including MAT 2311 (4), MAT 2312 (4), and MAT 2313 (4).
- Ordinary differential equations, MAT 2302 (3).

Basic Sciences (13 credits)

- One semester of general chemistry, CHM 2045C (4).
- Two semesters of calculus-based physics, PHY 2048 (4), PHY 2049 (4); and one physics laboratory, PHY 2048L (1).

Engineering (24 credits)

- A minimum of 12 credits of basic engineering science courses pertinent to the program of study, selected from the following: EGN 3311 Statics (3); EGN 3321 Dynamics (3); CES 3104C Mechanics of Materials (3) or EGN 3331 Strength of Materials (3); EML 3100 Thermodynamics (3); EEL 3111 Circuit Analysis I (3); EEL 3701 Introduction to Digital Systems; and CWR 3201 Fluid Mechanics (3) or EML 3015 Fluids (3).
- A minimum of 12 credits of advanced engineering undergraduate courses appropriate for the student's program of study.
- At least two laboratory courses are included in the undergraduate engineering courses.

Computer programming (3 credits)

- A course in computer programming using any modern programming language.

Professional Licensing

Many engineers become licensed Professional Engineers (P.E.) through a process of examination and certification of engineering experience. Completion of the M.S. degree does not automatically qualify, or necessarily prepare, a student to sit for licensing examinations, especially if the student's undergraduate degree is not from an accredited engineering program. If you are interested in becoming licensed contact the Florida Board of Professional Engineers for specific information about your eligibility to sit for the licensing examinations. The Board's contact information is as follows:

Florida Board of Professional Engineers
2507 Callaway Rd., Suite 200
Tallahassee Fl 32303-5267
850-521-0500 (Telephone)
850-521-0521 (Fax)
http://www.fbpe.org/

Master of Science in Civil Engineering (MSCE)

The program of study for the Master of Science in Civil Engineering consists of 30 credit hours[1]. Students must select one of two focus areas: (1) **geotechnical/structural** or (2) **water resources/environmental**. All programs of study must be approved by the Graduate Advisor before the end of the second semester of graduate study. Programs of study may be modified with the approval of the Graduate Advisor. All programs of study must contain at least 18 credit hours of 6000-level courses (including thesis or project credit hours)[2].

Geotechnical/Structural Focus Area

Required Courses (9 credit hours)

EGN 6456	Advanced Engineering Analysis (3)
CES 6116	Finite Element Structural Analysis (3)[3]
CES 5105	Advanced Mechanics of Materials for Civil Engineers (3)

Area Electives (minimum of 12 credit hours from these courses)

CEG 5304	Applied Engineering Geology (3)
CEG 6118	Advanced Foundation Engineering (3)
CEG 6016	Advanced Geotechnical Engineering (3)
CEG 6018	Applied Computational Geotechnics (3)
CEG 6320	Drilled Shaft Foundations in Rock (3)
CEG 6515	Slope Stability (3)
CEG 6806	Ground and Site Improvement (3)
CES 5326	Bridge Engineering (3)
CES 5706	Advanced Reinforced Concrete (3)
CES 6144	Advanced Structural Analysis (3)
CES 6715	Prestressed Concrete (3)
CGN 5932	Special Topics in Civil Engineering (v. 1-3)[4]
CGN 6933	Special Topics in Civil Engineering (v. 1-3)[4]

Courses other than those listed above may be included with the approval of the Graduate Advisor. Area elective courses may also be selected from FEEDS within the limitations discussed above, and must be approved by the Graduate Advisor.

Other Electives (maximum of 3 credit hours for thesis option students or 6 credit hours for project option students)

Students under the thesis option may take a maximum of 3 credits from subjects related to their area studies. Project-option students may take a maximum of 6 credits from subjects related to their area studies. Other elective courses may also be selected from FEEDS within the limitations discussed above, and must be approved by the Graduate Advisor.

Project or Thesis (maximum of 3 or 6 credit hours, depending on option)

CGN 6974	Civil Engineering Master's Project (3)[5]
CGN 6970	Civil Engineering Master's Thesis (3)[6]

Environmental/Water Resources Focus Area

Required Course (3 credit hours)

EGN 6456	Advanced Engineering Analysis (3)

Area Electives (minimum of 15 credit hours from these courses)

CWR 5545	Water Resources Systems (3)
CWR 5305	Stormwater Management (3)
CWR 6150	Engineering Hydrology (3)
CWR 6236	River Engineering and Sediment Transport (3)
ENV 5640	Design of Water Quality Management Facilities (3)
ENV 6510	Aquatic Chemical Processes (3)
ENV 6511	Biological Treatment Systems in Environmental Engineering (3)
ENV 6519	Physical/Chemical Treatment Systems in Environmental Engineering (3)
CGN 5932	Special Topics in Civil Engineering (v. 1-3)[4]
CGN 6933	Special Topics in Civil Engineering (v. 1-3)[4]

Courses other than those listed above may be included with the approval of the Graduate Advisor. Area elective courses may also be selected from FEEDS within the limitations discussed above, and must be approved by the Graduate Advisor.

Other Electives (maximum of 6 credit hours for thesis option students or 9 credit hours for project option students)

Students under the thesis option may take a maximum of 6 credits from subjects related to their area studies. Project-option students may take a maximum of 9 credits from subjects related to their area studies. Other elective courses may also be selected from FEEDS within the limitations discussed above, and must be approved by the Graduate Advisor.

Project or Thesis (maximum of 3 or 6 credit hours, depending on option)

CGN 6974	Civil Engineering Master's Project (3)[5]
CGN 6970	Civil Engineering Master's Thesis (3)[6]

Notes:

1. Eighteen (18) credit hours must be UNF-offered courses.
2. Only twelve (12) credit hours of 5000-level courses can be applied towards degree requirements.
3. EML 5508 Finite Element Modeling and Analysis (3) may be substituted for CES 6116 Finite Element Structural Analysis (3) if approved by the Graduate Advisor.
4. CGN 5932 Special Topics in Civil Engineering and CGN 6933 Special Topics in Civil Engineering may be repeated for up to 6 credit hours. These courses must be approved by the Graduate Advisor and be in the selected focus area.
5. Only students in the project option may enroll for CGN 6974 Civil Engineering Master's project.
6. Only students in the thesis option may enroll for CGN 6970 Civil Engineering Master's Thesis. This course may be repeated for a maximum of 6 credits.

Master of Science in Electrical Engineering (MSEE)

The program of study for the Master of Science in Electrical Engineering consists of 30 credit hours[1]. Students must select one of three concentrations (**communications, computer, or controls and signal processing**) and take at least six credit hours in that concentration. Every student must also take the required course EGN 6456 - Advanced Engineering Analysis. **The remaining course work is chosen from other concentration courses or approved elective courses.** All programs of study must be approved by the Graduate Advisor before the end of the second semester of graduate study. Programs of study may be modified with the approval of the Graduate Advisor. All programs of study must contain at least 18 credit hours of 6000-level courses (including thesis and project credit hours)[2].

Communications Concentration

Required Courses (3 semester hours)

EGN 6456	Advanced Engineering Analysis (3)

Concentration courses (select a minimum of 6 credits)

EEL 6532	Information Technology & Error Correction Coding (3)
EEL 6568	Optical Systems and Networks (3)
EEL 6591	Wireless/Mobile Communication (3)

Electives (minimum of 12 or 15 semester hours, depending on option)

Project-option students take a minimum of 15 credits of elective courses from the list below or from the courses required for the Computer and Controls and Signal Processing concentrations. Students under the thesis option take a minimum of 12 credits of elective courses from the list below or from the courses required for the other concentrations.

EEL 5511	Communications Systems (3)
EEL 5500	Digital Communications (3)
EEL 5500L	Digital Communications Laboratory (1)
EEL 5613	State-Space Control Systems (3)
EEL 5722C	Digital Design (4)
EEL 5764C	Digital Computer Architecture (4)
CDA 5106	Introduction to Computer Architecture (3)
CDA 5106L	Introduction to Computer Architecture Laboratory (1)
EEL 5513	Introduction to Digital Signal Processing (3)
EEL 5316	Advanced Electronics (3)
EEL 5060	High Tech Entrepreneurship (3)
EEL 5563	Fiber Optics (3)
EEL 5820	Digital Image Processing (3)
EEL 5934	Special Topics in Electrical Engineering (v. 1-3)
EEL 6521	Advanced Digital Communications (3)
EEL 6521L	Advanced Digital Communications Laboratory (1)
COP 6616	Parallel Computing (3)
EEL 6935	Special Topics in Electrical Engineering (v. 1-3)[3]

Courses other than those listed above may be included with the approval of the Graduate Advisor. Elective courses may also be selected from FEEDS within the limitations discussed above, and must be approved by the Graduate Advisor.

Project or Thesis (maximum of 3 or 6 semester hours, depending on option)

EEL 6925	Electrical Engineering Master's Project (3)[4]
EEL 6972	Electrical Engineering Master's Thesis (3)[5]

Computer Concentration

Required Courses (3 semester hours)

EGN 6456	Advanced Engineering Analysis (3)

Concentration courses (select a minimum of 6 credits)

EEL 6735	Computer System Design (3)
EEL 6749	Embedded Systems Design (3)
EEL 6825	Pattern Recognition (3)

Electives (minimum of 12 or 15 semester hours, depending on option)

Project-option students take a minimum of 15 credits of elective courses from the list below or from the courses required for the Communications and Control and Signal Processing concentrations. Students under the thesis option take a minimum of 12 credits of elective courses from the list below or from the courses required for the Communications and Control and Signal Processing concentrations.

EEL 5511	Communications Systems (3)
EEL 5500	Digital Communications (3)
EEL 5500L	Digital Communications Laboratory (1)
EEL 5613	State-Space Control Systems (3)
EEL 5722C	Digital Design (4)
EEL 5764C	Digital Computer Architecture (4)
CDA 5106	Introduction to Computer Architecture (3)
CDA 5106L	Introduction to Computer Architecture Laboratory (1)
EEL 5513	Introduction to Digital Signal Processing (3)
EEL 5316	Advanced Electronics (3)
EEL 5060	High Tech Entrepreneurship (3)
EEL 5563	Fiber Optics (3)
EEL 5820	Digital Image Processing (3)
EEL 5934	Special Topics in Electrical Engineering (3)
EEL 6521	Advanced Digital Communications (3)
EEL 6521L	Advanced Digital Communications Laboratory (1)
COP 6616	Parallel Computing (3)
EEL 6935	Special Topics in Electrical Engineering (3)[3]

Courses other than those listed above may be included with the approval of the Graduate

Advisor. Elective courses may also be selected from FEEDS within the limitations discussed above, and must be approved by the Graduate Advisor.

Project or Thesis (maximum of 3 or 6 semester hours, depending on option)

EEL 6925	Electrical Engineering Master's Project (3)[4]
EEL 6972	Electrical Engineering Master's Thesis (3)[5]

Controls and Signals Processing Concentration

Required Courses (3 semester hours)

EGN 6456	Advanced Engineering Analysis (3)

Concentration courses (select a minimum of 6 credits)

EEL 6558	Advanced Topics in Signal Processing (3)
EEL 6650	Control and Instrumentation (3)
EEL 6651	Motion Control (3)

Electives (minimum of 12 or 15 semester hours, depending on option)

Project-option students take a minimum of 15 credits of elective courses from the list below or from the courses required for the Computer and Communications concentrations. Students under the thesis option take a minimum of 12 credits of elective courses from the list below or from the courses required for the Computer and Communications concentrations.

EEL 5511	Communications Systems (3)
EEL 5500	Digital Communications (3)
EEL 5500L	Digital Communications Laboratory (1)
EEL 5613	State-Space Control Systems (3)
EEL 5722C	Digital Design (4)
EEL 5764C	Digital Computer Architecture (4)
CDA 5106	Introduction to Computer Architecture (3)
CDA 5106L	Introduction to Computer Architecture Laboratory (1)
EEL 5513	Introduction to Digital Signal Processing (3)
EEL 5316	Advanced Electronics (3)
EEL 5060	High Tech Entrepreneurship (3)
EEL 5563	Fiber Optics (3)
EEL 5820	Digital Image Processing (3)
EEL 5934	Special Topics in Electrical Engineering (v. 1-3)
EEL 6521	Advanced Digital Communications (3)
EEL 6521L	Advanced Digital Communications Laboratory (1)
COP 6616	Parallel Computing (3)
EEL 6935	Special Topics in Electrical Engineering (v. 1-3)[3]

Courses other than those listed above may be included with the approval of the Graduate Advisor. Elective courses may also be selected from FEEDS within the limitations discussed above, and must be approved by the Graduate Advisor.

Project or Thesis (maximum of 3 or 6 semester hours, depending on option)

EEL 6925	Electrical Engineering Master's Project (3)[4]
EEL 6972	Electrical Engineering Master's Thesis (3)[5]

Notes:

1. Eighteen (18) credit hours must be UNF-offered courses.
2. Only twelve (12) credit hours of 5000-level courses can be applied towards degree requirements.
3. EEL 5934 Special Topics in Electrical Engineering and EEL 6935 Special Topics in Electrical Engineering may be repeated for up to 6 credit hours. These courses must be approved by the Graduate Advisor and be in the selected concentration area.
4. Only students in the project option may enroll for EEL 6925 Electrical Engineering Master's Project.
5. Only students in the thesis option may enroll for EEL 6972 Electrical Engineering Master's Thesis. This course may be repeated for a maximum of 6 credits.

Master of Science in Mechanical Engineering (MSME)

The program of study for the Master of Science in Mechanical Engineering consists of 30 credit hours[1]. While there are no formal tracks or concentrations in the MSME program, the program of study generally focuses on the machine sciences or thermofluids areas of mechanical engineering. All programs of study must be approved by the Graduate Advisor before the end of the second semester of graduate study. Programs of study may be modified with the approval of the Graduate Advisor. All programs of study must contain at least 18 credit hours of 6000-level courses (including thesis and project credit hours)[2].

Required Courses (3 semester hours)

EGN 6456	Advanced Engineering Analysis (3)

Mechanical Engineering Electives (minimum of 15 semester hours from these courses)

EML 5808	Robotics Engineering II (3)
EML 6809	Intelligent Planning for Robotic Systems (3)
EML 5315	Advanced Control System Theory (3)
EML 6311	Modern Control Engineering (3)
EML 5508	Finite Element Modeling and Analysis (3)
EML 5211	Introduction to Continuum Mechanics (3)
EGN 6333	Advanced Mechanics of Materials (3)
EML 5105	Classical and Statistical Thermodynamics (3)
EML 5131	Combustion Phenomena (3)
EML 6451	Energy Conversion (3)
EML 5403	Fuel Cells (3)
EML 6417	Solar Energy Devices (3)
EML 5606	Air Conditioning and Refrigeration (3)
EML 5932	Special Topics in Mechanical Engineering (v. 1-3)[3]
EML 6933	Special Topics in Mechanical Engineering (v. 1-3)[3]

Courses other than those listed above may be included with the approval of the Graduate Advisor. Mechanical engineering elective courses may also be selected from FEEDS within the limitations discussed above, and must be approved by the Graduate Advisor.

Other Electives (maximum of 6 or 9 semester hours, depending on option)

Students under the thesis option may take a maximum of 6 credits from the list of mechanical engineering electives listed above or areas related to mechanical engineering. Students under the project option may take a maximum of 9 credits from the list of mechanical engineering electives listed above or areas related to mechanical engineering. Other elective courses may also be selected from FEEDS within the limitations discussed above, and must be approved by the Graduate Advisor.

Project or Thesis (maximum of 3 or 6 semester hours, depending on option)

EML 6556	Mechanical Engineering Master's Project (3)[4]
EML 6972	Mechanical Engineering Master's Thesis (3)[5]

Notes:

1. Eighteen (18) credit hours must be UNF-offered courses.
2. Only twelve (12) credit hours of 5000-level courses can be applied towards degree requirements.
3. EML 5932 Special Topics in Mechanical Engineering and EML 6933 Special Topics in Mechanical Engineering may be repeated for up to 6 credit hours. These courses must be approved by the Graduate Advisor and be in the selected concentration area.
4. Only students in the project option may enroll for EML 6556 Mechanical Engineering Master's Project.
5. Only students in the thesis option may enroll for EML 6972 Mechanical Engineering Master's Thesis. This course may be repeated for a maximum of 6 credits.

Graduate Faculty

Civil Engineering

Adel El-Safty, Ph.D., P.E., Assistant Professor (North Carolina State University; 1994)
Nick W. Hudyma, Ph.D., P.E., Associate Professor (University of Nevada, Las Vegas; 1999)
Stephan J. Nix, Ph.D., Director and Professor (University of Florida; 1982)
John Woolschlager, Ph.D., Associate Professor (Northwester University; 2000)
Thobias Sando, Ph.D., E.I., Assistant Professor (Florida State University; 2005)

Electrical Engineering

Chiu Choi, Ph.D., P.E., Professor (University of California, Santa Barbara; 1988)
Tayeb Giuma, Ph.D., Associate Professor (University of Miami; 1987)
Alan Harris, Ph.D., Assistant Professor (University of Oklahoma; 2005)
Dean Krusienski, Ph.D., Assistant Professor (Pennsylvania State University; 2004
Gerald Merckel, Ph.D., Associate Dean and Professor (University of Tennessee; 1973)
Susan Vasana, Ph.D., Assistant Professor (Queen's University; 1994)

Mechanical Engineering

Joseph L. Campbell, Ph.D., P.E., Professor (Clemson University; 1967)
Daniel Cox, Ph.D., Associate Professor (University of Texas, Austin; 1992)
Paul Eason, Ph.D., P.E., Assistant Professor (University of Florida; 1998)
James Fletcher, Ph.D., Assistant Professor (University of Florida; 1999)
Alexandra Schönning, Ph.D., Assistant Professor (University of Central Florida; 2001)