MINUTES
Graduate Council
January 23, 2020

Present: Ex officio: R. Bonhomme, M. Gallo

The meeting was called to order at 1:02 p.m.

1) CALL TO ORDER – Dr. Michael Gallo

Dr. Gallo welcomed Dr. David Carroll as the primary voting member now replacing Dr. Bashur and introduced Dr. Celeste Harvey, present for Dr. Martinez-Diaz, representing School of Behavior Analysis. He announced that he would be working from a restructured agenda.

2) MINUTES OF THE NOVEMBER 2019 GRADUATE COUNCIL MEETING

Unanimously Approved

The minutes of the November 21, 2019 meeting were unanimously approved on a motion by Dr. Carstens and a second by Dr. Bostater.

3) INFORMATION ITEM – MS Degree Program in Applied Mathematics

Request is made by the Department of Mathematical Sciences to inform Graduate Council that it is changing its final program examination (FPE) from an oral exam to a written exam for the MS degree program in Applied Mathematics. Because this change does not reflect a change in course or graduation requirements—it is still an FPE; only the format is changing—no action is required by Council.

4) INFORMATION ITEM – MS Degree Program in Operations Research

Request is made by the Department of Mathematical Sciences to inform Graduate Council that it is changing its FPE from an oral examination to a written examination for the MS degree program in Operations Research, similar to the request just made for Applied Mathematics.

5) CHANGING REQUIREMENTS FOR A COURSE – SWE 5110 Requirements Engineering

Unanimously Approved

Request is made by the Department of Computer Engineering and Sciences to change course prerequisite for SWE 5110 Requirements Engineering.

Dr. Gallo said the request was to change the course prerequisite for SWE 5110
Requirements Engineering by replacing the current prerequisite, SWE 5001 Software Engineering 1, with SWE 5100 Advanced Software Engineering, which is an existing course.

On a motion by Dr. Allen and a second by Dr. Edwards, the request made by Department of Computer Engineering and Sciences to change course prerequisite for SWE 5110 Requirements Engineering was unanimously approved.

6) **CHANGING REQUIREMENTS FOR A COURSE** – MAR 5413 Biological Applications of Geographic Information Systems, MAR 5421 Neotropical Archeoecology, and MAR 5904 Field Biology and Evolution of the Galapagos Islands

**Unanimously Approved**

Request is made by the Department of Ocean Engineering and Marine Sciences to remove prerequisites and add other restrictions for courses MAR 5413 Biological Applications of Geographic Information Systems, MAR 5421 Neotropical Archeoecology, and MAR 5904 Field Biology and Evolution of the Galapagos Islands.

Dr. Gallo said the request involved removing each course’s respective prerequisite and replacing it with “Instructor’s permission.”

On a motion by Dr. Bostater and a second by Dr. Follette, the request made by Department of Ocean Engineering and Marine Sciences to remove prerequisites and add other restrictions for courses MAR 5413 Biological Applications of Geographic Information Systems, MAR 5421 Neotropical Archeoecology, and MAR 5904 Field Biology and Evolution of the Galapagos Islands was unanimously approved.

7) **DUAL NUMBER COURSE LISTING** – AHF 5302 Human Computer Interaction

**Unanimously Approved**

Request is made by the College of Aeronautics to approve AHF 5302 Human Computer Interaction to be dual-numbered with its undergraduate course counterpart.

Dr. Gallo said the request was to designate AHF 5302 Human Computer Interaction as dual-numbered with its undergraduate course counterpart AHF 4302 Interaction Design and Usability. The difference in course requirements between graduate and undergraduate students is with respect to the Final Project. The undergraduate counterpart AHF 4302 was approved to be dual numbered by the Undergraduate Curriculum Committee at its November 2019 meeting.

On a motion by Dr. Carstens and a second by Dr. Follette, the request made by College of Aeronautics to approve AHF 5302 Human Computer Interaction to be dual-numbered with its undergraduate course counterpart was unanimously approved.

8) **ADDED A NEW COURSE** – CSE 5150 Data Analysis Methods

**Unanimously Approved**

Request is made by Department of Computer Engineering and Sciences to add new course CSE 5150 Data Analysis Methods.

Dr. Allen said this course is designed for non-software engineering students.

On a motion by Dr. Allen and a second by Dr. J. Perez, the request made by Department of Computer Engineering and Sciences to add new course CSE 5150 Data Analysis Methods was unanimously approved.
9) **ADDING A NEW COURSE – HCD 5220 Design Thinking**

*Unanimously Approved*

Request is made by Department of Computer Engineering and Sciences to add new course HCD 5220 Design Thinking.

Dr. Gallo noted that the proposed new course will impact an existing program, MS in Human-Centered Design, and the request to change graduation requirements for that program would be presented later in today’s meeting.

On a motion by Dr. Allen and a second by Dr. E. Perez, the request made by Computer Engineering and Sciences to add new course HCD 5220 Design Thinking was unanimously approved.

10) **ADDING A NEW COURSE – SWE 5620 Software Metrics**

*Unanimously Approved*

Request is made by Department of Computer Engineering and Sciences to add new course SWE 5625 Software Metrics.

Dr. Gallo noted that per Liz Fox, Catalog and Curriculum Director, this course currently exists in the system as SWE 5620, and therefore this request is for the reactivation of an existing course and not a request for a new course. A question was raised if course prefix and number SWE 5625 would still be available for future use and Ms. Fox answered yes.

On a motion by Dr. Allen and a second by Dr. Bostater, the request made by Department of Computer Engineering and Sciences to reactivate course SWE 5620 Software Metrics was unanimously approved.

11) **ADDING A NEW COURSE – SWE 5998 Capstone Project in Software Engineering**

*Unanimously Approved*

Request is made by Department of Computer Engineering and Sciences to add new course SWE 5998 Capstone Project in Software Engineering.

Dr. Gallo said the proposed new course will be used to measure program-level student learning outcomes and will impact an existing program, MS in Software Engineering, and the request to change graduation requirements for this program will be presented later in today’s meeting. He noted that the Chair of the Academic Program Assessment Committee has signed the administrative form for this request.

On a motion by Dr. Allen and a second by Dr. Bostater, the request made by Department of Computer Engineering and Sciences to add new course SWE 5998 Capstone Project in Software Engineering was unanimously approved.

12) **ADDING A NEW COURSE – EDS 5114 Special Topics in Education, EDS 5463 Special Topics in Environmental Education, and EDS 5514 Special Topics in STEM Education**

*Unanimously Approved*
Request is made by Department of Mathematical Sciences to add three new courses: EDS 5114 Special Topics in Education, EDS 5463 Special Topics in Environmental Education, and EDS 5514 Special Topics in STEM Education.

Dr. Gallo said the request is to add three new special topics courses. He noted that as a special topics course topics covered will vary, depending on the instructor and subject area. He advised that a sample syllabus is provided for each course and each syllabus is relative to the same topic, the “nature of science.” He advised that subsequent to Council receiving its package for today’s meeting, Dr. Marcinkowski provided examples of two other sample topics and assignments: one is related to program evaluation and the other is related to environmental education. Copies of these topics and assignments are available if anyone wishes to review them.

Dr. Gallo introduced the first new course, EDS 5114 Special Topics in Education, a variable credit course ranging from 1 to 4 credit hours.

Dr. Edwards asked why not have just one special topics course? Dr. Marcinkowski responded that they desired to keep only three graduate special topics courses (reduced from 15) one for education content; one for the environmental area; and one for areas subsumed by STEM. Dr. Layne added that it may be helpful to have the specific subject area in the course title for students and employers to see on a transcript. Dr. Marcinkowski agreed this is especially true for those seeking continuing education credits and for those participating in teacher workshops.

On a motion by Dr. Kiguradze and a second by Dr. Bostater, the request made by Department of Mathematical Sciences to add new course EDS 5114 Special Topics in Education was unanimously approved.

Dr. Gallo introduced the second new course, EDS 5463 Special Topics in Environmental Education, noting that this is a reactivation of a course currently in the system. The course is a variable credit course ranging from 1 to 4 credit hours.

On a motion by Dr. Kiguradze and a second by Dr. E. Perez, the request made by Department of Mathematical Sciences to reactivate course EDS 5463 Special Topics in Environmental Education was unanimously approved.

Dr. Gallo introduced the third new course EDS 5514 Special Topics in STEM Education, a variable credit course ranging from 1 to 4 credit hours.

On a motion by Dr. Kiguradze and a second by Dr. Bostater, the request made by Department of Mathematical Sciences to add new course EDS 5514 Special Topics in STEM Education was unanimously approved.

13) ADDING A NEW COURSE – OCE 5995 Ocean Engineering Research

Unanimously Approved

Request is made by Department of Ocean Engineering and Marine Sciences to add new course OCE 5995 Ocean Engineering Research.

Dr. Gallo advised that this will be a full-load course and has 135 research hours.

On a motion by Dr. Bostater and a second by Dr. Allen, the request made by Department of Ocean Engineering and Marine Sciences to add new course OCE 5995 Ocean Engineering Research was unanimously approved.

14) ADDING A NEW COURSE – MEE 5177 Energy Conversion
Unanimously Approved

Request is made by Department of Mechanical and Civil Engineering to add new course MEE 5177 Energy Conversion.

Dr. Gallo advised that the proposed new course will impact an existing program, the MS in Mechanical Engineering, and the changing graduation requirements request for that program will be presented next.

On a motion by Dr. Webster and a second by Dr. J. Perez, the request made by Department of Mechanical and Civil Engineering to add new course MEE 5177 Energy Conversion was unanimously approved.

15) CHANGING GRADUATION REQUIREMENTS – MS Degree Program in Mechanical Engineering

Unanimously Approved

Request is made by the Department of Mechanical and Civil Engineering to change graduation requirements for its MS degree program in Mechanical Engineering.

Dr. Gallo said the request to change the graduation requirements for the MS degree program in Mechanical Engineering includes (a) Adding a 0-credit seminar; (b) removing the MS specialization in “Hydrogen and Fuel Cell Technology”; (c) adding two existing courses MEE 5491 Computational Materials Science and Engineering and MEE 5553 Advanced CAD and Design Automation to the selection of core courses in the “Structures, Solid Mechanics and Materials” specialization; and (d) adding the new course MEE 5177 Energy Conversion to the selection of core courses in the “Thermal-Fluid Sciences” specialization.

As an observation, Dr. Gallo noted that the catalog description does not include a listing of the core courses. Dr. Layne added that SACS states that courses that are program requirements be clearly identified so that expectations are clear to students and prospective students.

On a motion by Dr. Carroll and a second by Dr. Kiguradze, the request made by Department of Mechanical and Civil Engineering to change graduation requirements for its MS degree program in Mechanical Engineering was unanimously approved.

16) CHANGING GRADUATION REQUIREMENTS – MS Degree Program in Software Engineering

Unanimously Approved

Request is made by Department of Computer Engineering and Sciences to change graduation requirements for its MS degree program in Software Engineering by replacing the written final program examination option with the new course SWE 5998 Capstone Project in Software Engineering.

On a motion by Dr. Allen and a second by Dr. E. Perez, the request made by Department of Computer Engineering and Sciences to change graduation requirements for its MS degree program in Software Engineering by replacing the written final program examination option with the new course SWE 5998 Capstone Project in Software Engineering, was unanimously approved.

17) CHANGING GRADUATION REQUIREMENTS – MSA Degree Program in Applied
Aviation Safety, MSA in Airport Development and Management, and MS in Aviation Human Factors

Unanimously Approved

Request is made by College of Aeronautics to change graduation requirements from 36 to 30 credit hours for three of its degree programs: MSA in Applied Aviation Safety, MSA in Airport Development and Management, and MS in Aviation Human Factors.

Dr. Gallo said the 6-hour reduction is reflected in the electives with the core courses remaining the same.

On a motion by Dr. Carstens and a second by Dr. E. Perez, the request made by College of Aeronautics to change graduation requirements from 36 to 30 credit hours for three of its degree programs: MSA in Applied Aviation Safety, MSA in Airport Development and Management, and MS in Aviation Human Factors was unanimously approved.

18) CHANGING GRADUATION REQUIREMENTS – MS Degree Program in Computer Information Systems

Unanimously Approved

Request is made by Department of Computer Engineering and Sciences to change graduation requirements for its MS degree program in Computer Information Systems by revising admission requirements, removal of two required courses, addition of three required courses, and basing final program examination assessment on capstone course CIS 5898 Projects in Computer Information Systems or CIS 5999 Thesis.

Dr. Gallo said the request to change the graduation requirements for the MS degree program in Computer Information Systems includes increasing the required courses from four to five. This will be done by (a) removing two required courses: CIS 5220 Computer Organization and CIS 5230 Operating Systems; (b) adding three required courses: CIS 5210 Integration of Database Systems; CIS 5240 Introduction to Computer Systems; and CIS 5410 Computer Networks for Information Specialists I; and (c) requiring the final program examination to be either the existing capstone course CIS 5898 Projects in Computer Information Systems or CIS 5999 Thesis. Thus, the option of taking a written FPE will no longer be available.

On a motion by Dr. Allen and a second by Dr. Bostater, the request made by Department of Computer Engineering and Sciences to change graduation requirements for its MS degree program in Computer Information Systems by removal of two required courses, addition of three required courses, and basing final program examination assessment on capstone course CIS 5898 Projects in Computer Information Systems or CIS 5999 Thesis was unanimously approved.

19) CHANGING GRADUATION REQUIREMENTS – MS Degree Program in Systems Engineering

Unanimously Approved

Request is made by Department of Computer Engineering and Sciences to change graduation requirements for its MS degree program in Systems Engineering by adding existing
capstone design project course **SYS 5380 Systems Engineering Design Project** as a final program examination option.

Dr. Gallo said the request to change the graduation requirements for the MS degree program in Systems Engineering comprised of making the existing capstone design project course **SYS 5380 Systems Engineering Design Project** a final program examination option. Although not required because **SYS 5380** is an existing course, a copy of the course syllabus was provided. He noted that if this request is approved, students will have three options for end-of-program assessment: thesis, written FPE, and the capstone design project course **SYS 5380**.

Dr. Allen reaffirmed that students will have three exit experience choices: a final program examination, a capstone or thesis.

On a motion by Dr. Allen and a second by Dr. Bostater, the request made by Department of Computer Engineering and Sciences to change graduation requirements for its MS degree program in Systems Engineering by adding existing capstone design project course **SYS 5380 Systems Engineering Design Project** as a final program examination option was unanimously approved.

20) **CHANGING GRADUATION REQUIREMENTS—MS Degree Program in Human-Centered Design**

*Unanimously Approved*

Request is made by the Department of Computer Engineering and Sciences to change graduation requirements for its MS degree program in Human-Centered Design by updating admission requirements, removing the non-thesis (project option) for the final program examination, and revising curriculum for required courses and electives.

Dr. Gallo said the request to change the graduation requirements for the MS degree program in Human-Centered Design includes reducing the number of credit hours from a minimum of 33 to a minimum of 30 and removing the non-thesis option, which will require all students to do a thesis. He noted that new course **HCD 5220 Design Thinking** is a required course for the proposed changes to the graduation requirements for this degree program.

Dr. Allen added that the design of this program is better suited as a thesis because a design program is tough to do in one term.

On a motion by Dr. Allen and second by Dr. Carstens, the request made by Department of Computer Engineering and Sciences to change graduation requirements for its MS degree program in Human-Centered Design by reducing the number of credit hours from 33 credit hours to 30 credit hours, revising curriculum, and removing the non-thesis option was unanimously approved.

21) **CHANGING GRADUATION REQUIREMENTS—MS Degree Program in Computer Science**

*Unanimously Approved*

Request is made by the Department of Computer Engineering and Sciences to change graduation requirements for its MS degree program in Computer Science by removing the requirement that students take “Advanced Electives” numbered 5600 or above.
On a motion by Dr. Allen and a second by Dr. Bostater, the request made by Department of Computer Engineering and Sciences to change graduation requirements for its MS degree program in Computer Science by removing the requirement that students take “Advanced Electives” numbered 5600 or above was unanimously approved.

22) CHANGING GRADUATION REQUIREMENTS –PhD Degree Program in Ocean Engineering

Unanimously Approved

Request is made by the Department of Ocean Engineering and Marine Sciences to change graduation requirements for its PhD degree program in Ocean Engineering by lowering the minimum number of total credit hours from 78 to 72.

Dr. Gallo noted that although the memo to Graduate Council speaks to decreasing the total number of credit hours for the PhD degree from 78 to 72 hours beyond the bachelor’s degree, the current catalog does not reflect any information about requirements beyond the bachelor’s degree. It is only relative to beyond the master’s degree. However, if viewed from the more general perspective of reducing the minimum number of credit hours for doctoral dissertation from 24 to 18, this change will reduce the minimum credits for the PhD degree beyond the master’s degree from 48 to 42, and the minimum number of credits beyond the bachelor’s degree from 78 to 72, both of which are consistent with Graduate Policy 2.2.2. Thus, what Council is to consider when voting, is to reduce the minimum number of credit hours for doctoral dissertation OCE 6999 from 24 to 18 as indicated on the agenda.

A question was raised regarding why the need for the change. Dr. Bostater replied it is to be consistent with the other engineering programs in College of Engineering and Science.

On a motion by Dr. Bostater and second by Dr. Kiguradze, the request made by Department of Ocean Engineering and Marine Sciences to change graduation requirements for its PhD degree program in Ocean Engineering by reducing OCE 6999 Dissertation credits from 24 to 18 was unanimously approved.

23) CHANGING GRADUATION REQUIREMENTS –PhD Degree Program in Chemistry

Parts (A) and (B) Unanimously Approved
Part (C) Item Tabled

Request is made by Department of Biomedical and Chemical Engineering and Sciences to change graduation requirements for its PhD degree program in Chemistry by reducing the number of formal course credit hours from 33 to 18, increasing the number of maximum research course credit hours from 15 to 27, removing the requirement of passing six cumulative examinations in favor of a more generic requirement of passing written entrance and comprehensive examinations, and rewording outdated sentences in the “degree requirements” section.

Dr. Gallo summarized the request is to change the graduation requirements for the PhD degree program in Chemistry as (a) reducing the minimum number of credit hours for formal courses from 33 credits (11 courses) to 18 credits (six courses). This reduction will still maintain compliance with GP 2.2.2.; (b) changing the number of credit hours for research courses from 3–18 credit hours to 3–27 credit hours. He noted that independent of formal courses and research
18 credit hours to 3–27 credit hours. He noted that independent of formal courses and research courses, the minimum number of dissertation hours will remain at 15 credits; and (c) replacing the requirement to “pass six cumulative examinations” with the requirement to pass a written entrance examination and a PhD comprehensive examination.

Dr. Gallo said the request to “reword some of the outdated sentences in the ‘degree requirements’ section” is not part of Council’s responsibilities and therefore will not be addressed.

Discussion ensued regarding the request for Parts (A) and (B). A question was raised about what formal courses were being removed. Dr. Peverati said the course reduction will bring FL Tech more in line with other Florida universities. He said FL Tech currently has 11 courses and Dr. Nesnas agreed that there are many formal courses in the program. Dr. Gallo added that in programs such as Chemistry and Biology, the goal is research and not spending as much time on content, and this is more commonplace in degree programs where students will pursue a PhD immediately after earning their Bachelor’s degree. Dr. Chouinard said a survey was done with other universities and this request is to benefit FL Tech students, to get them in the lab. Dr. Nesnas agreed and said reducing lecture courses will allow students to focus on research. Although lectures will be reduced, independent research will be increased in the labs. Dr. Nesnas reassured all that this request is in line with Graduate Policy 2.2.2 and is intended to allow students to get to dissertation research earlier.

Discussion ensued regarding Part (C) of the request. A question was raised regarding how many programs at universities implement entrance exams. Dr. Nesnas said these examinations, if successful, would be a way to gauge students at the beginning of a program and prevent students from coming in for a year or two and not doing well. He said students will be tested on four areas, will have two attempts to pass, and must pass two out of those four areas. A question was asked if those stipulations would be listed in the university catalog and Dr. Nesnas replied yes. Dr. Peverati added that if the student fails both attempts to pass, the student would be moved to the MS program. Dr. Chouinard added that these standardized exams are from the American Chemical Society. Dr. Nesnas said these exams are like GRE’s for chemistry students and are a way to gauge our students nationally. Dr. Peverati said this is a way to identify a weakness of a student right away and enable the department to address the weakness within a year. A point was raised about why not make exams as part of admission requirements?

Due to the interest of time and a lengthy agenda, Dr. Gallo suggested that maybe Council could vote on Parts (A) and (B) and address Part (C) at a later date. Dr. Gallo made a motion to modify to consider the first two items and to table the third item.

On a motion by Dr. Bostater and a second by Dr. Edwards, the request made by Department of Biomedical and Chemical Engineering and Science to change graduation requirements for its PhD degree program in Chemistry by (a) reducing the minimum number of credit hours for formal courses from 33 credits to 18 credits and (b) changing the number of credit hours for research courses from 3–18 credit hours to 3–27 credit hours was unanimously approved in agreement with the modified motion to table (c) replacing the requirement to “pass six cumulative examinations” with the requirement to pass a written entrance examination and a PhD comprehensive examination to be addressed at a later date.
24) **ADDING A NEW MAJOR – PhD Degree Program in Cell and Molecular Biology**

*Unanimously Approved*

Request is made by Department of Biomedical and Chemical Engineering and Sciences to add new PhD degree program in Cell and Molecular Biology.

Dr. Gallo noted that the proposed program represents an extraction of the existing Cell and Molecular option of the PhD program in Biological Sciences. Given the reorganization of various academic units last year, the request is to create a separate PhD degree program in Cell and Molecular Biology independent of the PhD degree in Biological Sciences (currently housed in the Department of Ocean Engineering and Marine Sciences). He noted that the proposed program will not require any new courses, new faculty, or any infrastructure. Furthermore, all existing evaluation criteria will be used to satisfy SACS requirements, and the Chair of the Academic Program Assessment Committee has approved this request.

Dr. Gallo said prior to requesting a motion and second to bring this agenda item to the table for discussion, Council should be aware that the description of the course requirements is problematic with regard to the Course Requirements paragraph:

*The doctoral degree requires a minimum of 73 semester hours beyond the baccalaureate degree. The curriculum consists of 1) at least 42 semester hours of coursework and 2) a maximum of 30 semester hours of Dissertation in Biological Sciences (BIO 6999 3 credit hours).*

(a) Does “at least 42 semester hours of coursework” reflect both formal and informal courses?

(b) The “maximum of 30 semester hours of Dissertation” implies that a student can take 0 hours of **BIO 6999** when in fact students must take, per policy, at least 15 hours of dissertation.

(c) As presented, the program is *exactly* 73 hours and not a minimum of 73 hours.

Dr. Carroll said **BIO 6999 Dissertation** can be edited to 15-30 credit hours. Because all courses are formal, the program does not have any informal courses. He added that the faculty want more students to take research hours before they take comprehensive examinations. Due to the slight confusion of the total credit hours of the program, 73 credits, Dr. Carroll also agreed to remove the phrase “minimum of.”

On a motion by Dr. Carroll and a second by Dr. E. Perez, the request made by Department of Biomedical and Chemical Engineering and Sciences to add new PhD degree program in Cell and Molecular Biology was unanimously approved.

25) **ANNOUNCEMENTS**

Dr. Gallo announced that the next Graduate Council meeting is February 20, 2020, and the submission deadline for materials is February 6, 2020.

With no further business, the meeting adjourned at 2:16 p.m.

Rosemary G. Layne, Ed.D.
Director of Graduate Programs