

**Institute Undergraduate Curriculum Committee
Academic Matters, Appeals, and Petitions (Full Committee)
Tuesday, March 18, 2014**

Note: This meeting was a multi-purpose meeting so that the backlog of academic matters could be addressed along with the petitions that were scheduled to be reviewed on this date. Petition actions were reported in a separate set of Petitions Minutes.

Present: Berry (PUBP), Economou (ARCH), Hollengreen (ARCH), Klein (ECE), Mayor (ME), Pikowsky (Registrar), Riedl (CoC-IC), Sankar (AE), Scott (CEE), Senf (LMC), Singleton (PSYCH), Smith (ME), Wilkinson (CHEM & BIOCHEM), Yaszek (LMC), Stein (ODOS)

Visitors: Laros (REG), Merkousko (REG), Mastrangelo (COB), Jarrio (Physics), Raczynski (CS), Appel-Sillbaugh (ODOS), Jackson (INTA), Slaughter (SCOB), Subramanian (SCOB), Richards (SCOB), Boothe (CEE), Dobranski (CAS), Shook (Modern Languages), Grover (ChBE, Exec. Board Liaison)

Note: All action items in these minutes require approval by the Academic Senate. In some instances, items may require further approval by the Board of Regents or the University System of Georgia. If the Regents' approval is required, the change is not official until notification is received from the Board to that effect. Academic units should take no action on these items until USG and/or BOR approval is secured. In addition, units should take no action on any of the items below until these minutes have been approved by the Academic Senate or the Executive Board.

Academic Matters

1. A motion was made to approve a request from the School of Physics for a new minor. The motion was seconded and approved.

New Minor – Approved

Minor in Physics

Description: A minor in physics is intended to provide an in-depth study of physics to non-physics majors entering into a global and diverse workforce where a multidisciplinary science and engineering background is increasingly common. It will also serve those students who, through elective physics course studies, have developed a greater interest in the discipline, or who plan to enter graduate school in an area where a strong physics background is useful.

Objectives: The objective of the minor is to strengthen the student's knowledge of the fundamental physical concepts underlying all of modern science and engineering. The minor will help the student develop analytical problem-solving skills and reinforce their ability to engage in scientific thinking.

Need and demand: Student demand is determined, in part, from regular inquiries to the School of Physics. In a recent survey, undergraduate administrators across the College of Sciences, Colleges of Engineering and Computing, reacted positively to the proposed physics minor. The School of Physics has received specific input on the minor from the School of Mathematics and from the offices of the Dean of the College of Sciences. The minor, its objectives and content have been discussed and developed by the School's Undergraduate Curriculum Committee which includes two Associate Chairs. The curriculum was presented and discussed at a full meeting of the School's faculty.

The following University System of Georgia institutions offer a minor in physics:

Augusta State University
Georgia College and State University
North Georgia College and State University
University of Georgia
Valdosta State
Georgia State University

Administration: The School of Physics will administer the program through its Academic Office. A student who declares a minor in physics will be assigned a faculty member who will advise on any outstanding degree requirements and provide a contact within the School of Physics. The student will have their minor degree petition audited by the School of Physics prior to its submission, using the same procedure as is followed for petitioning physics majors.

Curriculum

The physics minor will consist of 15 credit hours. The credits applied to the physics minor will include the following courses

- Phys 2213 Introduction to Modern Physics (3 hours)
- Phys 3143 Quantum Mechanics I (3 hours)
- Phys 3201 Classical Mechanics I (3 hours) or Phys 3122 Electro & Magnetostatics (3 hours) or Phys 3141 Thermodynamics (3 hours)
- any 6 hours chosen from Physics 3000 and 4000 level courses.

At most 3 hours of laboratory may be included among the 15 credit hours. A maximum of 3 hours of Special Topics may be included among the 15 credit hours. Special Problems and Undergraduate Research will not count towards the physics minor.

Grade Requirements: All courses counting towards the minor must be completed on a letter-grade basis, and earn a final grade of C or better.

Overlapping Courses: Courses taken to satisfy Core Areas A through E in the student's major degree program may not be counted as coursework in the minor. Core Area F courses may be counted as coursework in the minor.

New Courses: No new courses will be added as part of this minor.

Delivery model/Proposed Locations: The minor in physics will be offered on the Atlanta campus through lecture and laboratory courses. The minor is composed of pre-existing courses taught by the School of Physics faculty. A small increase in enrollment in some lecture courses is anticipated. While no laboratory courses are explicitly required by the minor, those available are established and equipped. Permits for laboratory course registration will be administered by the School of Physics.

Learning Outcomes

Students who minors in Physics will be able:

- To describe the major theories, concepts, and methods used to understand the physical world.
- To demonstrate an ability to think critically and analytically that is germane to the study of physics.
- To demonstrate an ability to solve problems using the laws of physics expressed in mathematical form.

Program Measures:

Students will be assigned one or more rubrics designed to objectively measure their:

- Understanding of major theories of physics
- Analytical/critical thinking skills
- Ability to solve problems posed in a mathematical form

In addition, upon completion of the minor sequence students will be expected to complete an exit survey that will ask them to subjectively self-assess their knowledge of physics and the value they place on their studies.

Faculty Evaluation: Physics faculty will meet to evaluate the curriculum annually, utilizing surveys and rubrics and will recommend changes as needed.

Faculty and Instructors Directly Involved with the Minor

Existing faculty will be utilized to offer the minor. Initial enrollment in the minor is not expected to exceed the current space available in relevant courses. Phys 3143 and Phys 3201 have had a 60/40% split in major to non-major registration numbers in recent years, with one section of each course offered in both Fall and Spring semesters. We anticipate that many of our “new” minors would be drawn from the 40% of non-majors already in these courses, but a large increase in minor registration numbers would likely require a third section of Phys 3143 and/or Phys 3201 in each academic year.

Space Planning: Facilities, Classroom, Labs, and Equipment

Current classroom space within the School of Physics is sufficient to absorb increased enrollments due to the minor. However, because laboratory space is limited, minors will be allowed in lab courses by permit only, after major demand has been fully met.

	1st Year FY 14	2nd Year FY 15	3rd Year FY 16	4 th Year FY 17
ENROLLMENT PROJECTIONS				
Students				
Existing Students in major program	540	540	540	540
Students from other major programs	250	250	250	250
<i>Total Students Projected for this Minor</i>	30	40	50	60
COURSE SECTIONS SATISFYING MINOR REQUIREMENTS				
Existing	26	26	27	28
New (being requested)	—	—	—	—

Total Program Course Sections	26	26	27	28
CREDIT HOURS GENERATED BY THOSE COURSES				
Existing enrollments	2400	2400	2400	2400
New enrollments	90	120	150	180
Total Credit Hours	2490	2520	2550	2580
MINORS TO BE AWARDED	5	10	20	25

Entries in table were generated assuming that “enrollments” means total students, summed over all relevant courses—counting a student once for each course in which he or she enrolls. The table factors in only those courses that are applicable to the Physics minor.

2. A motion was made to approve a request from the Scheller College of Business for new courses. The motion was seconded and approved.

NEW COURSES – APPROVED

MGT 3745: Business Programming 3-0-3

Note: This course was submitted as 4050 and was approved with the caveat that it be assigned a 3000-level number.

MGT 4117: Global Workforce Management 3-0-3

3. A motion was made to table a request from the Scheller College of Business for a new certificate in Business Analytics. The motion was seconded and approved.

NEW CERTIFICATE – TABLED

Certificate in Business Analytics

This certificate proposal was tabled due to the listing of Special Topics courses. It was suggested that it be brought back for review once permanent numbers have been requested for the courses.

4. A motion was made to approve a request from the Scheller College of Business and the College of Engineering for a minor modification. The motion was seconded and approved.

MINOR MODIFICATION – APPROVED

Rename the Minor in Engineering and Management to Minor in Engineering and Business.

The Engineering and Management Business Minor is offered by the Colleges of Engineering and Management Scheller College of Business. It is a course of study that enables undergraduate students in engineering and management Business to learn one another's language through innovative coursework in their respective fields and interdisciplinary team projects focused on solving real-world problems presented by corporate affiliates. Admission to most of the classes also requires that students be active members in the Denning Technology and Management program. Top students with at least thirty hours of college credit from engineering, science, computing and management business apply for this program in January October of each year. Business and engineering students who complete the program earn a Minor in Engineering & Management Business. Science and Computing students receive a certificate of completion. Forty to fifty Fifty to sixty students are accepted each year and enter the program in the fall semester to begin a prescribed two-year, 22-credit course of study while satisfying requirements for a bachelor's degree in their engineering or management business administration major. Application and course descriptions are available at: <http://mgt.gatech.edu/tm>.

Course Numbers and Descriptions

SCH=Semester Credit Hours

No Changes of Required courses to be completed by all students - Total: 13 hours

Course

SCH

Analysis of Emerging Technologies MGT/ME* 3743-TM	3	Existing Course	No prerequisite, but TM section reserved for T&M students
MGT/ME* 3744 Managing Product, Service & Technology Development	3	Existing Course	No prerequisite, but TM section reserved for T&M students
MGT/ME* 4741 Integrative Management Development – Capstone Preparation	3	Existing Course for T&M Program	No prerequisites, but course restricted to T&M students.

MGT/ME* 4742 Integrated Capstone Project	4	Existing Course for T&M Program	No prerequisites, but course restricted to T&M students. Field work with Corporate Affiliate required.
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*Engineering students must enroll using the MGT heading and business students must enroll using the ME heading.

No Changes to Track for BSBA Students – Total: 9 hours

Course SCH

COE 3002 Introduction to the Microelectronics and Microelectronics Revolution	3	Existing Course	No prerequisite, but TM section reserved for T&M students
ME 3141 Cutting-Edge Technologies Seminar	3	Existing Course	No prerequisite, but TM section reserved for T&M students
ME 2110 Creative Decision and Design	3	Existing Course	Restricted to ME students, but T&M business students receive permits to register

No Changes to Track for Engineering Students– Total: 9 hours

Course SCH

Marketing Management I MGT 3300	3	Existing Course	No prerequisites
Financial and Managerial Accounting MGT 3000	3	Existing Course	No prerequisites
Finance and Investments MGT 3078	3	Existing Course	No prerequisites

Total Semester Hours for Minor: 22 (7 courses)

5. A motion was made to approve a request from the Scheller College of Business and the College of Computing for a minor modification. The motion was seconded and approved.

MINOR MODIFICATION – APPROVED

Rename the Minor in Computing and Management to Minor in Computing and Business

Note: Ivan Allen students in Computational Media will also be eligible for this minor. There was significant discussion about whether the different tracks of this minor (for Business and Computing students) are equally rigorous. The primary concern raised in the discussion was that all three of the courses in the Computing track are at the 3000-level, whereas two of the three in the Business track are at the 4000-level. After considerable back-and-forth on this question the proposal was approved, but there is at least a superficial difference in the two based on course levels which was of concern to the Committee.

All references to Computer Science in the document change to the College of Computing. The intent of the minor is to offer all undergraduate students in the College of Computing the opportunity to pursue this minor.

Remove CS/MGT 4052 from the course requirements for the Minor in Computing and Business and replace it with CS/MGT 4057. The College of Computing and the Scheller College of Business have identified redundancies in the required curriculum for College of Computing students and the content of MGT 4052. The faculty members agreed that MGT 4057 would provide greater knowledge for computing students and equally benefit business students.

Remove CS 1316 from the course requirements for the Minor in Computing and Business and replace it with CS 4440 or CS 4420. Students should ensure that they have the necessary pre-requisites for the CS 4440 or CS 4420, which are either MGT 4058 or CS 4400. The College of Computing considers CS 1316 redundant, given that the minor requires CS 2316. The Associate Dean of the College of Computing recommended CS 1316 be removed from the list of required courses for the Minor in Computing and Business.

- Removed MGT/CS 4052 and added MGT/CS 4057. Both are 3 credit hours. The number of hours required for the minor would remain the same.
- Removed CS 1316 and added CS 4440 or CS 4420. Both course options are 3 credit hours. The number of hours required for the minor would remain the same.
- Include BSCM with College Computing and Ivan Allen as one of the existing major degree programs eligible to pursue a minor in Computing and Business.

The Computing and Management Business Minor is offered by the Colleges of Computing and the Scheller College of Business Management. It is a course of study that enables undergraduate students in computing and management business to learn one another's language through innovative coursework in their respective fields and interdisciplinary team projects focused on solving real-world problems presented by corporate affiliates.

The curriculum of the Minor in Computing and Management Business requires the completion of 22 semester credit hours.

The minimum, cumulative GPA required for applicants to the Denning T&M Program is 3.0. In order for accepted students to maintain their eligibility to remain in the T&M Program, they must continue to maintain a minimum, cumulative GPA of 2.9 and maintain a 3.0 GPA for the classes required by the Denning T&M curriculum. All courses must be taken for a letter grade; pass/fail credit is not allowed.

Computing students will gain an understanding of market forces and the financial implications of information technology investment.

Business students will gain an understanding of the relationship between software infrastructure, business processes, organizational structure and business strategies to effectively manage information technology resource, as well as the capabilities and constraints within the computing disciplines.

COMPUTING AND BUSINESS MAJORS:

- will learn the skills necessary to work in multi-disciplinary teams by analyzing and developing comprehensive solutions to real-world technology and business based problems.
- will demonstrate leadership, communication, and team working skills that will prepare them for successful careers in a technology driven business world.
- will learn how to identify and capitalize on emerging technologies, and then analyze and design information systems from a managerial viewpoint vs. computer science computing perspective.
- will learn how to identify and address issues that are critical to the creation of a successful solution of a multi-disciplinary problem using a business and technical perspective and a global context.

Application and course descriptions are available at:

<http://mgt.gatech.edu/tm>

<http://scheller.gatech.edu/programs/under/tm/index.html>

Course Numbers and Descriptions

SCH=Semester Credit Hours

Required courses to be completed by **all students** - **Total: 13 hours**

Course	SCH		
Analysis of Emerging Technologies MGT/CS* 3743-TM	3	Existing Course	No prerequisite, but TM section reserved for T&M students
MGT/CS* 4052 Systems Analysis and Design Add: MGT/CS 4057 Business Process Analysis and Design	3 3	Existing Course	Prerequisite: MGT 2200 for BSBA students. Prerequisite waived for BSCS and BSCM students.
Integrative Management Development – Capstone Preparation MGT/CS* 4741	3	Existing Course for T&M Program	No prerequisites, but course restricted to T&M students.
Tech & Mgt Capstone Project MGT/CS* 4742	4	Existing Course for T&M Program	No prerequisites, but course restricted to T&M students. Field work with Corporate Affiliate required.

*Computing students must enroll using the MGT heading and management students must enroll using the CS heading.

Track for BSBA Students – Total: 9 hours

Course	SCH		
Data Manipulation for Science and Industry CS 2316	3	Existing Course	Prerequisites: CS 1371 or CS 1301 or CS 1315
Representing Structure and Behavior CS 1316 CS 4440 Emerging Database Technologies and Applications or CS 4420 Database System	3	Existing Course	Prerequisites: For CS 4440 and CS 4420: CS 4400 or MGT 4058

Implementation (Students should ensure that they have the necessary pre-requisites, which are either MGT 4058 or CS 4400.)			
Next Generation Computing Technologies CS 4005	3	New Course Existing Course	Prerequisite: CS 2316

Track for BSCS and BSCM Students– Total: 9 hours

Course	SCH		
Marketing Management I MGT 3300	3	Existing Course	No prerequisites
Financial and Managerial Accounting MGT 3000	3	Existing Course	No prerequisites
Finance and Investments MGT 3078	3	Existing Course	No prerequisites

Total Semester Hours for Minor: 22 (7 courses)

6. A motion was made to approve a request from the School of Civil and Environmental Engineering for a new course and to acknowledge without concern a request for changes in prerequisites. The motion was seconded and approved.

NEW COURSE – APPROVED

CEE 4340: Environmental Modeling and Health Risk Analysis 3-0-3

Note: The abbreviation for the transcript was modified to delete the period after “ENV” as it appears on the NCP.

During the discussion of this proposal it was asked whether this new course is a replacement for the existing CEE 4320. Following the meeting, this was clarified and CEE 4340 is not a replacement for 4320. Therefore, 4320 will not be deactivated.

Prerequisite Modifications – Acknowledged without Concern

Course Number	Course Title	Current Prerequisites	Proposed Prerequisites
CEE 2300	Environmental Engineering Principles	CHEM 1310 AND PHYS 2211 AND MATH 1502	CHEM 1310 or CHEM 1211k or CHEM 12X1 AND PHYS 2211 or PHYS 2231 AND MATH 1502 or MATH 1512 or MATH 15X2
CEE 3000	Civil Engineering Systems	MATH 1501	MATH 1501 or MATH 1511 or MATH 15x1
CEE 3040	Fluid Mechanics	CEE 2040 AND MATH 2401	CEE 2040 or ME 2202 AND MATH 2401 or MATH 2411 or MATH 24x1
CEE 3340	Environmental Engineering Laboratory	CEE 2300 AND BIO 1510	CEE 2300 AND BIOL 1510 or BIOL 1511
CEE 3770	Statistics & Applications	MATH 2401	MATH 2401 or MATH 2411 or MATH 24x1
CEE 4300	Environmental Engineering Systems	CEE 2300	CEE 2300 REMOVE
CEE 4330	Air Pollution	CHEM 1310 AND PHYS 2211	CHEM 1310 or CHEM 1211k or CHEM 12X1

			AND PHYS 2211 or PHYS 2231
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In addition to the above Proposed Prerequisite please also note that we will accept **CHEM 1211K** as a transfer equivalent to **CHEM 1310** for both BSCE and BSENVE programs.

The aforementioned pre-requisite changes represent acceptable substitutes for current accepted pre-reqs used by the School of Civil and Environmental Engineering. These updates are simple modifications aimed at matching the Institute catalog to accepted polices in the School of Civil and Environmental Engineering.

7. A motion was made to table a request from the College of Computing for new courses. The motion was seconded and approved.

NEW COURSES – TABLED

CS 3311: Project Design 1-0-1

CS 3312: Project Implementation 2-0-2

Note: These new courses must have tenure-track faculty assigned to them and reported on the NCP. The College could resubmit these proposals when this issue has been addressed and recorded on the revised NCPs.

8. A motion was made to approve a request from the College of Computing for a degree modification. The motion was seconded and approved.

DEGREE MODIFICATION – APPROVED

Bachelor of Science in Computer Science, Approaches to Intelligence Pick in the Intelligence Thread

We are requesting the addition of CS 4650 (Natural Language Processing) and CS 4649 (Robot Intelligence) to the Approaches to Intelligence Pick in the Intelligence Thread.

The Approaches to Intelligence Pick is designed to expose students to a variety of different techniques and philosophical approaches to various issues in Intelligence. One of the reasons we require students to take two courses in the

pick, is so they are exposed to an actual variety of coursework. Both Natural Languages and Robot Intelligence represent a common but distinct approach to different problems in this space. Now that we have taught these courses consistently for a number of years and we can expect to be able to staff them for a number of years to come, the COC-UCC feels it is appropriate to include them on the list.

The only difference in the proposed new program is providing more choice on course options for students.

Following is a sample Thread with this change:

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

THREAD: INFORMATION INTERNETWORKS INTELLIGENCE

REQUIREMENT	REQ HRS	COURSE(S)	NOTES
Wellness	2	HPS 1040 or APPH 1040 or APPH 1050	
Core A - Essential Skills	3	ENGL 1101	
	3	ENGL 1102	
	4	MATH 1501	
Core B - Institutional Options	3	CS 1301	c
Core C - Humanities	6	Any HUM	
Core D - Science, Math, & Technology	4	PHYS 2211	a
	4	Lab Science	a
	4	MATH 1502	
Core E - Social Sciences	3	HIST 2111 or HIST 2112 or INTA 1200 or POL 1101 or PUBP 3000	
	3	PSYC 1101	
	6	Any SS	
Core F - Courses Related to Major	4	Lab Science	a
	1	CS 1100	
	3	CS 1331	c
	3	CS 1332	c
	3	CS 2050 or CS 2051	c
	4	MATH 2605	

Major Requirements	3	CS 2340	c
	3	CS 4001 or CS 4002	c
	3	CS 4980 or CS 4911	c
Concentration	4	CS 2110	c
	4	CS 2200	c
	3	CS 3510 or CS 3511	c
	3	CS 3600	c
	6	CS 3251 or CS 4235 or CS 4400	c
	3	CS 4237 or CS 4251 or CS 4255 or CS 4261 or CS 4270 or CS 4365 or CS 4420 or CS 4440 or CS 4460	c
	3	CS 3240 or CS 4510	c
	6	CS 4495 or CS 4635 or CS 4641 or CS 4731 ADD or CS 4650 or 4649	c
	3	CS 3630 or CS 3790 or PSYC 3040	c
Other Required Courses	3	LCC 3403	
	3	MATH 3012	
	3	MATH 3215 or MATH 3770 or CEE 3770 or ISYE 3770 or (ISYE 2027 and ISYE 2028)	
Free Electives	10	Free Electives	
TOTAL:	126		

Pass-fail only allowed for Free Electives (max six hours), CS 1100, and CS 1171 (if required)

NOTES

a = Two of three lab sciences MUST be a sequence.

c = C-minimum required

- A motion was made to approve an administrative request to correct course numbers. The motion was seconded and approved.

Correction of course numbers:

When LCC changed to LMC subject codes, two new courses were also created LMC 2800 and 2850.

LMC 2800: Introduction to Literature, Media and Communication
 LMC 2850: Seminar in Literature, Media, and Communication

Since X8XX numbers are reserved for Special Topics, these numbers need to be changed before the courses are taught.

The numbers will be changed to:

LMC 2800 will be LMC 2000
LMC 2850 will be LMC 2050

The Registrar's Office will also verify and change any prerequisites that previously had LMC 2800 or LMC 2850 listed and will verify and correct any curriculum in the upcoming catalog for these numbers.

10. A motion was made to approve a request from the School of Modern Languages, as recommended by the General Education Subcommittee, for the following courses. The motion was seconded and approved.

Existing Courses – Add Core Attributes - APPROVED

LING 2100: Introduction to Linguistics – HUMANITIES
SPAN 3101: Conversation I – GLOBAL PERSPECTIVES
SPAN 3102: Conversation II – GLOBAL PERSPECTIVES

11. A motion was made to deny a request from the School of Modern Languages, as recommended by the General Education Subcommittee, for the following courses. The motion was seconded and approved.

NEW COURSES – With Core Attributes – DENIED

RUSS 2100: Intro to 19th Century Russian Culture 3-0-3 - HUMANITIES
RUSS 2150: Intro to 20th and 21th Century Russian Culture 3-0-3 -
HUMANITIES

This proposal was denied due to the fact that these courses have never been taught. They were proposed to support the Russian concentration within the ALIS degree. However, the Committee did not feel comfortable approving them until they have been taught in the Special Topics format.

12. A motion was made to approve a request from the School of Modern Languages for a new course. The motion was seconded and approved.

NEW COURSE – APPROVED

RUSS 3005: Russian for Heritage Speakers 3-0-3

13. A motion was made to approve a request from the School of International Affairs for a new course with a Core attribute as recommended by the General Education Subcommittee. The motion was seconded and approved.

NEW COURSE – With Core Attribute – APPROVED

INTA 3043: Space Policy 3-0-3 – Social Sciences

Note: This course is being taught as a Special Topics in Spring 2014.

14. A motion was made to deny a request from the School of International Affairs for a new course with Core attributes as recommended by the General Education Subcommittee. The motion was seconded and approved.

NEW COURSES – With Core Attributes – Social Science and Global Perspectives - DENIED

INTA 1050: The World Today

Note: This course has not yet been taught in Special Topics format.

15. A motion was made to table a request from the School of International Affairs for new courses with Core attributes as recommended by the General Education Subcommittee. The motion was seconded and approved.

NEW COURSES – With Core Attributes – Social Science and Global Perspectives – TABLED

INTA 2042: Intro to Global WMD Issues
INTA 2050: Introduction to Global Development
INTA 2120: Intro to International Security
INTA 2221: Politics of the European Union
INTA 2241: Government, Politics and Society of Latin America
INTA 2260: Government, Politics and Society of the Middle Ea...
INTA 3042: Energy and International Security
INTA 3044: Global Politics of Technology
INTA 3050: The Meaning of Global Citizenship
INTA 3223: Transatlantic Relations
INTA 3243: US-Latin American Relations

Note: This set of proposals was tabled because it was unclear which of them either has been taught in Special Topics format or may be in progress during Spring 2014 term, or may have never been taught at all. The Registrar's Office will sort out this information and put the list of courses on the next agenda for review.

Petitions

Petitions results were reported in a separate set of Petitions Minutes.

Adjourned,

Reta Pikowsky
Registrar