Policy and Procedure for Credit Hour Assignment and Review

Introduction

With regards to the determination and assignment of credit hours, the SANS Technology Institute is subject to Federal regulations, the policies of the Middle States Commission on Higher Education (MSCHE), and those sections of the Code of Maryland Regulations pertaining to the Maryland Higher Education Commission (MHEC). The SANS Technology Institute monitors compliance with the federal rules and the policies of the MSCHE and MHEC concerning the amount of work required for a unit of credit, and requires that an amount of work for each unit of credit be institutionally established, in accordance with accepted practice of higher-education institutions, as representative of intended learning outcomes and as verified by evidence of student achievement.

The Credit Hour Policy of the SANS Technology Institute, including related terms and definitions

The SANS Technology Institute, reflecting the "Credit Hour Policy" of the MSCHE, effective August 23, 2012 and as revised October 30, 2012, determines and assigns credit hours in compliance with the following federal definition of a "credit hour," as promulgated by the U.S. Department of Education and as associated with the standard "Carnegie Unit":

"An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than

o One hour of classroom or direct faculty instruction and a minimum of two hours of out- of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit; or

o At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution, including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours."

We also incorporate herein the letter issued by the United States Department of Education, Office of Postsecondary Education, dated March 8, 2011, with the subject "Guidance to Institutions and Accrediting Agencies Regarding a Credit Hour as Defined in the Final Regulations Published on October 29, 2010," (the "Information and Guidance Letter"[1]), in which the Office of Postsecondary Education provided "information concerning the definition of a credit hour and guidance on implementing these final regulations."

The SANS Technology Institute further references and applies the relevant definitions provided by the Maryland Higher Education Commission in COMAR 13B.01.01.09 and COMAR 13B.02.02.16.

In addition, the SANS Technology Institute also employs the term "Contact Hour" as defined in the MSCHE's "Degrees and Credits" Guidelines, June 26, 2009: a "Contact Hour" is "A unit of measure that represents an hour of scheduled instruction given to students. Source: IPEDS."

[1] http://ifap.ed.gov/dpcletters/attachments/GEN1106.pdf

All semester / credit hours awarded by the SANS Technology Institute will conform to the definitions listed or provided above. Therefore, all units of credit awarded will conform to the federal, state, and Middle States Commission on Higher Education definitions or guidance.

Implementation of the Credit Hour Policy

The SANS Technology Institute, through its Curriculum, Academic, Faculty, and Student Affairs (CAFSA) Committee, as a standing committee of the Board, determines and assigns a credit hour consistent with the above definitions, guidelines, and clarifications, evaluating all of its courses to establish equivalency with an amount of work "represented in intended learning outcomes and verified by evidence of student achievement" that reasonably approximates not less than the amount of work an average student in our program must complete to meet the federal definitions. Assignment of credit hours for courses is determined within the program based on faculty expertise and course learning objectives. Existing courses will be evaluated for adherence to the federal credit hour regulation using an annual audit. New courses will, upon review and approval at the program level, be reviewed by the CAFSA Committee and recommended for approval or denial.

Periodic or Ad Hoc Reviews of Credit Hour Assignments

The SANS Technology Institute periodically reviews the consistency and adequacy of its assignment of credit hours to its programs of study through a combination of recurring academic program reviews, new course and program approvals, and the periodic reviews associated with accreditation. If during any of these reviews it is determined that credit hour assignments, intended learning outcomes, or student achievement deviate from alignment with our credit hour assignment policy, the chief academic officer will identify the appropriate Program Director, program and/or teaching faculty member and assign to her/him/them the task of investigating and correcting the deviation. Correction can be in the form of a credit hour assignment adjustment, outcome/achievement adjustment, or a combination of both, with final changes presented to and approved by the CAFSA Committee.

The CAFSA Committee is charged with following the policy on credit hours in their review and approval of all courses and curricula and for certifying that the expected student learning for the course meets the credit hour standard. Approved courses are sent to the Assistant Director for Graduate School Operations for inclusion in the Course Catalog.

Relative to the federal definition, it is important to note that many of the contact hours associated with our courses are typically delivered not over fifteen weeks, but during an intense, immersive five- or six-day period, and that many of our contact hours may be delivered through distance-enabling technologies. In these regards, the US Department of Education's Information and Guidance Letter offers relevant commentary, including "In determining the amount of work the institution's learning outcomes will entail, as under current practice, the institution may take into consideration alternative delivery methods, measurements of student work, academic calendars, disciplines, and degree levels."

Credit Hour Calculation Guidelines

In particular, for courses which primarily involve faculty lectures, an exam or other assessment, and/or a paper or simulation requirement, the assigned credit hours reflect the amount of work expected of an average student which reasonably approximates 15 contact hours and a minimum of 30 additional hours of

out-of-classroom work. The term 'contact hour' applies to student time engaged by and associated with direct faculty instruction, whether in lectures or directed laboratory or simulation activities, whether delivered in-person in a classroom or through distance-enabled technologies, or a combination thereof. "Out-of-classroom work" includes any assigned preparative and post instruction readings and study, paper or presentation writing, exam preparation and test-taking time, engagement in simulation exercises or other practice-oriented activities, or any other work expected by the course requirements and included in the course syllabi. Especially for course components employing faculty- student interaction structures different than lecture-based faculty instruction, such as research paper or presentation counseling and preparation, computer-enabled simulations, practica, or any other academic work leading to the award of credit hours, including independent studies, course syllabi at a minimum clearly state learning objectives and expected outcomes and workload expectations that meet the standards set forth above. This credit hour assignment policy covers all types of courses, disciplines, programs, formats, and modalities of instruction.

The following provides general guidance on the how the credit hour translates to the particular instruction method. Note, however, that the credit-hour definition does not dictate particular amounts of classroom time versus out-of- class student work - the information below serves as general guidance only.

Lecture and Seminar: Courses with multiple students which meet to engage in various forms of group instruction under the direct supervision of a faculty member. The minimum contact time (that is, direct instructor-led time) per credit per week is typically one (50 minute) hour for each credit (1:1 ratio of contact time to credits, per week). In addition, students are assigned 2.25 (50 minute) hours of outside work for each credit, per week.

Online Courses: Courses offered entirely online without any on-site face-to-face meetings. These courses have the same learning outcomes and substantive components of a standard lecture / seminar course with an alternate delivery method. Contact time is satisfied by several means which can include, but is not limited to, the following: a.) regular instruction or interaction with a faculty member once a week for each week the course runs. b.) Academic engagement through interactive tutorials, group discussions moderated by faculty, virtual study/project groups, engaging with class peers and computer tutorials graded and reviewed by faculty. In all such instances, these courses must meet the total amount of instructional and student work time as the examples above even if delivered online or asynchronously.

Hybrid Courses: Courses offered in a blended format with one or more on-site face-to-face class sessions and at least one or more online sessions, both containing direct interaction with a faculty member. Contact time is assessed using both on-site definitions (for the on-site portion) and online definitions as above (for the online portion). In all such instances, these courses must meet the total amount of instructional and student work time as the examples above even if delivered online or asynchronously.

Directed Study or Research: Courses of study designed to fulfill particular graduate level requirements such as research papers, individual or group projects, case studies, and presentations resulting as a follow-on requirement from any such directed study or research. In all such instances, the combination of advisory interaction, research time, and writing time must combine to match the minimum contact hours described in all policy and guidance as presented above.

The following tables reflect the current credit hour assignments regardless of modality, resulting from the most recent CAFSA assessments.

PROGRAM: MS, Information Security Engineering

Course Number	Course Title	SANS Class	Contact hours	Assessment	Exam length in hours	Outside class hours (contact hours x 2.25)	Total work hours	# of weeks in term	Hours per week	Credit Hours
ISE 5101	Enterprise Information Security	SEC 401	36	GSEC	4	90	130	12	11	3
ISE 5201	Hacking Techniques & Incident Response	SEC 504	36	GCIH	4	90	130	12	11	3
ISE 5401	Advanced Network Intrusion Detection & Analysis	SEC 503	36	GCIA	4	90	130	12	11	3
ISE 5800	IT Security Project Management	MGT 525	36	GCPM	4	90	130	12	11	3
ISE 6001	Standards-based Implementation of Security	SEC 566	36	GCCC	2	86	124	12	10	3
ISE 6999	Elective	500+ level SANS class w/cert	36	GIAC Exam	4	90	130	12	11	3
ISE 6999	Elective	500+ level SANS class w/cert	36	GIAC Exam	4	90	130	12	11	3
ISE 6999	Elective	500+ level SANS class w/cert	36	GIAC Exam	4	90	130	12	11	3
RES 5500	Graduate Research Practicum			Research paper	3 hours per page x 25 pages		75	12	6	2
RES 5900	Advanced Graduate Research Practicum			Research Paper	3 hours per page x 25 pages		75	12	6	2
ISE 5300	Building Security Awareness	MGT 433	12	Written Security Awareness Plan	1 hour per page x 30 pages		42	6	7	1
ISE 5600	IT Security Leadership Competencies	MGT 514.4	8	Leadership Writing Assignment	2 hours per page x 6 pages		20	6	3	1
ISE 5700	Situational Response Practicum		16	24-Hour Group Project; Report / Presentation	1	38	55	4	14	1
ISE 6100	Security Project Practicum			30-Day Group Project; Paper	(1.5 hours per page x 50 pages)/groups of 3		25	4	6	1
ISE 5550	Research Presentation I	MGT 305	8	Oral Presentation of Research Paper	1	28	37	4	9	1
ISE 5900	Research Presentation II			Oral Presentation of Research Paper	1	20	21	4	5	1
ISE 6300	NetWars Continuous Practicum			Core NetWars Continuous	50	113	50	8	6	1
N/A	MSISE Capstone			GSE exam plus lab	12	50	62	12	5	1
										36

PROGRAM: MS, Information Security Management

Course Number	Course Title	SANS Class	Contact hours	Assessment	Exam length in hours	Outside class hours (contact hours x 2.25)	Total work hours	# of weeks in term	Hours per week	Credit Hours
ISM 5101	Security Leadership Essentials	MGT 512	36	GSLC	4	90	130	12	11	3
ISM 5201	Hacking Techniques & Incident Response	SEC 504	36	GCIH	4	90	130	12	11	3
ISM 5800	IT Security Project Management	MGT 525	36	GCPM	4	90	130	12	11	3
ISM 5601	Law of Data Security and Investigations	LEG 523	36	GLEG	4	90	130	12	11	3
ISM 6001	Standards-based Implementation of Security	SEC 566	36	GCCC	2	86	124	12	10	3
ISM 6201	Auditing Networks, Perimeters, and Systems	AUD 507	36	GSNA	4	90	130			3
ISM 6999	Elective	500+ level SANS class w/cert	36	GIAC Exam	4	90	130	12	11	3
ISM 5400	Security Strategic Planning, Policy, and Leadership	MGT 514	36	Policy Presentation and Leadership Essay	90 Outside class hours, 2 hours per page x 6 pages		138	12	12	3
RES 5500	Graduate Research Practicum			Research paper	3 hours per page x 25 pages		75	12	6	2
RES 5900	Advanced Graduate Research Practicum			Research Paper	3 hours per page x 25 pages		75	12	6	2
ISM 5300	Building Security Awareness	MGT 433	12	Written Security Awareness Plan	1 hour per page x 30 pages		42	6	7	1
ISM 5700	Situational Response Practicum		16	24-Hour Group Project; Report / Presentation	1	38	39	4	10	1
ISM 6100	Security Project Practicum			30-Day Group Project; Paper	(1.5 hours per page x 50		25	4	6	1
ISM 5550	Research Presentation I	MGT 305	8	Oral Presentation of Research Paper	1	28	37	4	9	1
ISM 5900	Research Presentation II			Oral Presentation of Research Paper	1	20	21	4	5	1
ISM 6300	NetWars Continuous Practicum			Core NetWars Continuous	50	113	50	8	6	1
N/A	MSISE Capstone			GSE exam plus lab	12	50	62	12	5	1
										35

PROGRAM: Graduate Certificate, Cybersecurity Engineering (Core)

Course Number	Course Title	SANS Class	Contact hours	Assessment	Exam length in hours	Outside class hours (contact hours x 2.25)	Total work hours	# of weeks in term	Hours per week	Credit Hours
ISE 5101	Enterprise Information Security	SEC 401	36	GSEC	4	90	130	12	11	3
ISE 5201	Hacking Techniques & Incident Response	SEC 504	36	GCIH	4	90	130	12	11	3
ISE 5401	Advanced Network Intrusion Detection & Analysis	SEC 503	36	GCIA	4	90	130	12	11	3
RES 5500	Graduate Research Practicum			Research paper	3 hours per page x 25 pages		75	12	6	2
ISE 6300	Core NetWars Continuous Capstone			Core NetWars Continuous	50	113	50	8	6	1
										12

PROGRAM: Graduate Certificate, Cyber Defense Operations

Course Number	Course Title	SANS Class	Contact hours	Assessment	Exam length in hours	Outside class hours (contact hours x 2.25)	Total work hours	# of weeks in term	Hours per week	Credit Hours
ISE 5401	Advanced Network Intrusion Detection & Analysis	SEC 503	36	GCIA	4	90	130	12	11	3
ISE 6240	Continuous Monitoring and Security Operations	SEC 511	36	GMON	4	90	130	12	11	3
ISE 6999	Elective	500+ level SANS class w/cert	36	GIAC Exam	4	90	130	12	11	3
ISE 6999	Elective	500+ level SANS class w/cert	36	GIAC Exam	4	90	130	12	11	3
										12

PROGRAM: Graduate Certificate, Penetration Testing and Ethical Hacking

Course Number	Course Title	SANS Class	Contact hours	Assessment	Exam length in hours	Outside class hours (contact hours x 2.25)	Total work hours	# of weeks in term	Hours per week	Credit Hours
ISE 5201	Hacking Techniques & Incident Response	SEC 504	36	GCIH	4	90	130	12	11	3
ISE 6315	Web App Penetration Testing and Ethical Hacking	SEC 542	36	GWAPT	4	90	130	12	11	3
ISE 6320	Network Penetration Testing and Ethical Hacking	SEC 560	36	GPEN	4	90	130	12	11	3
ISE 6999	Elective	500+ level SANS class w/cert	36	GIAC Exam	4	90	130	12	11	3
ISE 6300	Core NetWars Continuous Capstone			Core NetWars Continuous	50	113	50	8	6	1
										13

PROGRAM: Graduate Certificate, Incident Response

Course Number	Course Title	SANS Class	Contact hours	Assessment	Exam length in hours	Outside class hours (contact hours x 2.25)	Total work hours	# of weeks in term	Hours per week	Credit Hours
ISE 5201	Hacking Techniques & Incident Response	SEC 504	36	GCIH	4	90	130	12	11	3
ISE 6425	Advanced Digital Forensics, Incident Response, and Threat Hunting	FOR 508	36	GCFA	4	90	130	12	11	3
ISE 6440	Advanced Network Forensics and Analysis	FOR 572	36	GNFA	4	90	130	12	11	3
ISE 6460	Reverse Engineering Malware: Malware Analysis Tools and Techniques	FOR 610	36	GREM	4	90	130	12	11	3
ISE 6400	DFIR NetWars Continuous Capstone			DFIR NetWars Continuous	50	113	50	8	6	1
										13