

## **Catalog Description**

Technical and expository readings, reports, and discussions. Topics include vocational and ethical issues, the relationship between Computer Science and the Christian faith, human factors and software engineering, the history of computing, and individually selected topics of interest. Open to seniors only.

## **Purpose**

Senior Seminar is an *integrative* course. It draws on all of the courses that you have had so far, including both general education and major courses.

Senior Seminar is a *seminar*. We each come to each class prepared to contribute what we have learned. Assignments are sometimes different for each student. Then when we come together, we tell each other what we have discovered about our part of the assignment.

## **Resources**

**Instructor:** Dr. Gene B. Chase. Office: Frey 123. Telephone: 766-2511, ext. 2770 (office) or 766-7904 (home, before 10 pm). chase AT messiah DOT edu. Home page: [www.GeneBChase.com](http://www.GeneBChase.com)

**Books:** Books will be available in the Library, articles will be available on the Internet and my distributing articles. You may need to buy other books depending on your role in the seminar.

**Web site:** The course web site for materials that I post is < [www.messiah.edu/~chase/csc/494](http://www.messiah.edu/~chase/csc/494) > Information at that web site is incorporated into this syllabus by reference. Schedule changes, grading guidelines, plagiarism cautions, reading suggestions, and project suggestions collect there. The course electronic drop box is Q:\StudentFiles\cs\chase\opsys\gc1153 where in place of gc1153 your name occurs. For team projects, there will be team folders, so that you do not need to share your password.

**Computers:** Linux and Windows are available in Frey 366. This is a “dirty lab” where the computers can be experimented on, within limits of the facility and the limits of the needs of other students. You may arrange with me to put up any legal software you wish on a computer in Frey 366. I have some need of various machines for Operating Systems, so we’ll have to coordinate.

## **Grading**

**Class participation:** A seminar works when everyone participates. Unexcused absences or pronounced tardiness will result in a substantial lowering of your grade. In every class, a *minimal* acceptable contribution (grade C) is at a level that lets me know that you have done the homework for that class. An *average* contribution (grade B) is at the level of showing understanding of the material for that class by making a contribution to that class. A *maximal* contribution (grade A) is at a level that shows me that you have mastered the assigned homework. An incredible 40% of your grade in this course is based on class participation, not counting your oral presentation of your research project. Messiah College’s grading standard is linked to our course home page.

**Attendance:** You are expected to attend. For classes that must be scheduled in slots other than those for our course (like School of MEB Scholarship Day), if you cannot attend them all for reasons beyond your control, you can make up *excused* absences by attending presentations from the mathematics senior seminar or other approved optional presentations related to Computer Science, such as attending a professional meeting or on-campus lectures. You may not make up unexcused absences. If you attend a talk, submit a written paragraph or two telling me about it if you wish for it to remove an excused absence.

**Final examination:** There is no final examination for this seminar. I will interview you for 10 minutes to give you feedback on your work in the course and to get your reflections and feedback on the Computer Science major. This interview is part of your class participation. We will schedule it for as early as possible after I have graded your semester project, during the final exam week.

**Research project:** Your on-going term-long project is **60%** of your grade. At the end of the semester, you will prepare a thoughtful, professional slide-illustrated talk on your research, and written a paper with citations in a proper consistent format about your contributions to our project, using LaTeX software. The formal paper is a 10-page summary of your project, due on the last day of class. Your talk should be about 15 minutes long (minimum of 10 minutes, maximum of 30 minutes) including time for questions. Milestones for project deliverables will be announced.

Guidelines for the format of your paper will be available on the web. Papers from earlier versions of this course are available from me for you to sample, but remember that the guidelines for those papers may have been different at the time that the papers were written.

**Grade reports:** I email grade reports to your Messiah email account several times during the semester.

## Legalities

### Americans with Disabilities Act

Any student whose disability falls within ADA guidelines should inform the instructor at the beginning of the semester of any special accommodations or equipment needs necessary to complete the requirements for this course. Students must register documentation with the Office of Disability Services in Old Main 342. If you have questions, call Dr. Keith Drahn at ext. 5358.

### Academic Integrity

Messiah College's policy on academic integrity is found in the Student Handbook on pages 91-93 of the Student Handbook, which is linked to our course home page. You are not properly enrolled in this course unless you understand this policy and agree to abide by it.

## Tentative Daily Schedule

### A. Have a vocation and a Vocation!

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Tue Feb 6     **Speaker:** Dr. Gene B. Chase, "Lutheran, Anabaptist, Calvinistic, and Anglican views on faith-discipline issues." This is actually part of the faith-discipline section of our seminar.

**Graded assignment for February 8:** • Hand in a printed copy of your résumé, and put a copy of it on the Q: drive area for our course, preferably in either PDF or RTF format (since Word DOC files can contain unseen executable code). • If you have not picked a **project topic area**, pick that *area* before Thursday, and email your ideas to the class via the class list server, [compsci-talk@listserv.messiah.edu](mailto:compsci-talk@listserv.messiah.edu).

Thu Feb 8 **Guest speaker:** Dwayne Keiffer, Career Center: “Job opportunities, résumé, careers, and job-hunting.”

**Graded assignment for February 13:** • Submit a second résumé in text format (\*.TXT), this time, following the machine-readable guidelines that you received from Mr. Keiffer on Thursday. • Post one of your résumés to eRecruiting, as instructed by Mr. Keiffer if you have not already done so. • Download a copy to your personal computer of the software for TeX provided at <http://www.miktex.org> (We will be using LaTeX for our semester reports, which is the page description language that professional CS papers are requested in.) • Narrow your topic area to a specific topic, and submit a proposal consisting of the title, a paragraph about the proposed project, and 3–5 references not all of which are from the internet (or at least if they are, they have also been peer-reviewed).

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Tue Feb 13 Dr. Chase provides a setting for intellectual property issues (patents, copyright, trade secrets) and trespass.

Thu Feb 15 **Discussion:** ACM Code of Ethics and ethics case studies. (Course web page has an Ethics Self Study PDF that we’ll be using.)

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Tue Feb 20 **Field trip:** (van reserved) To Tyco Electronics [Glen Rebmann, host]

Thu Feb 22 **Discussion:** More on intellectual property and ethical issues, with case studies.

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Tue Feb 27 **Guest speaker:** Jon McCown (communications ’85), CyberTrust.com, “Computer Security,” and “Job Skills.”

Thu Mar 1 **Discussion of readings in Christian scholarship in Computer Science.** Readings on Christian scholarship in Computer Science, some materials available on the tables in Frey 353, others in the Library, still others on-line.

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Tue Mar 6 **Guest speaker:** Jim Hurne (comp sci ’03), ImageTech Systems, “Subversion”

Thu Mar 8 **Students** present to the seminar what progress they have made on their projects, and request feedback from the seminar.

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Tue Mar 13 **Guest speaker:** Matt Phillips (comp sci ’00), Operation Mobilization, “Linux and Missions.”

Thu Mar 15 **(More) students** present to the seminar what progress they have made on their projects, and request feedback from the seminar.

**The following is due right after Spring Recess:** Each individual or team will need to

pick by today a title for their talk in April, and a four- or five-sentence abstract, of which the first sentence can stand alone, so that the program can be typeset.

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— **Spring Recess, March 17–25** —

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Tue Mar 27 **Guest speaker:** Christopher Pennington (4 pm), unconfirmed as of printing of this syllabus

Thu Mar 29 **Christian scholarship paper due.** Presentation: “Big Ideas in CS,” Dr. Gene B. Chase

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**B. Cutting-Edge Themes in Computer Science**

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Tue Apr 3 Vinton G. Cerf, Part 1 of presentation to Google in London; lengthy intro to Curt Byers

Thu Apr 5 **Class cancelled to provide individual group meeting times**

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— **Easter Recess, April 6–9** —

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Tue Apr 10 Groupware (collaborative software), an example of Human-Computer Interface (HCI), Dr. Gene B. Chase [or I may substitute another example of HCI or another example of HCI].

Thu Apr 12 **Senior Breakfast**, Private Dining Room, business dress!

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Tue Apr 17 **Guest speaker:** Messiah College’s ITS overview of systems, Rick Dent and Tony Wyland, unconfirmed as of printing of this syllabus.

Thu Apr 19 **Service Day** (no classes)

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Tue Apr 24 **Guest speaker:** Mark Forman (comp sci, '86), “Getting a Job in Computer Science”  
9:45 a.m. Honors and Convocation Chapel (where a first year student CS major will be honored)

Thu Apr 26 **Class cancelled** to give you time to prepare for tomorrow.

Fri Apr 27 School of Mathematics, Engineering and Business third annual **Scholarship Day**  
Presentations of your work for this seminar are scheduled for Frey 343 in seven half-hour slots as follows:

Attendance at the activities of this day is part of the requirements for our course. If you cannot attend all of the activities of the day, I must have an advanced, written explanation of what parts you will miss and why. Approval will not automatically be granted even then.

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Tue May 1 Vint Cerf & Bob Kahn, 2004 Turing Award (video 1:08 talk; 00:30 Q&A)

Thu May 3 Either parts 2 & 3 of Cerf at London, or LaTeX embedding pictures and other tricks.

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Tue May 8 Course wrapup; **written project due by end of the day**

**Final exam week:** individual exit interviews, and return of graded projects