

[ECE48xx] Syllabus

[Research Methods, 2 Credit Hours]

[Class Day(s), Time, Location (include lab/recitation locations)]

Instructor Information

Instructor

[Thomas K. Gaylord]

Email

[tgaylord@ece.gatech.edu]

Office Hours & Location

[VL W419, Wednesday 3:00-5:00pm]

Teaching Assistant(s)

[TA Name]

Email

[Email address]

Office Hours & Location

[Location, Hours, Days]

General Information

Description

[The pace at which technology is being developed is becoming faster and faster. In this environment, it is essential for research students to understand and to utilize current tools efficiently and to be able to write concise summaries of the research of others as it relates to their own research/project. The objective of this course is to provide a working knowledge of methods and practices in conducting research relative to literature, patent, and company searches, reference management, and literature summary/proposal writing. Each student will develop a database that includes 1) journal papers, 2) conference papers, 3) trade-journal articles, 4) theses, 5) patents, and 6) company information relevant to their research/project. This will include pdf copies of these items and written summaries with automated referencing that include prior references and subsequent references to the item being summarized. This produces a self-contained, completely searchable, and totally portable database.]

Pre- &/or Co-Requisites

[None]

Course Goals and Learning Outcomes

[Upon completion of the course each student will have developed a database that includes 1) journal papers, 2) conference papers, 3) trade-journal articles, 4) theses, 5) patents, and 6) company information relevant to their research/project. This will include pdf copies of these items and written summaries with automated referencing that include prior references and subsequent references to the item being summarized. This produces a self-contained, completely searchable, and totally portable database.]

Course Requirements & Grading

[Use this chart to list all of the graded components in your class. Keeping it on the first page of your syllabus will help your students quickly answer their most pressing questions, on the first day of class (What's the workload like? and How do I get an A in this class?).]

Assignment	Date	Weight (Percentage, points, etc)
Homework Assignments		15%
First Intermediate Database		5%
First intermediate Summaries		5%
Second Intermediate Database		5%

Second intermediate Summaries	5%
Final Database	20%
Final Summaries	20%
White Paper Proposal	25%

Extra Credit and Grade Dispute Policies and Procedures

[If applicable, include a statement about extra credit and grade dispute policies here.]

Description of Graded Components

[The number of references with written summaries should be at least 15. These 15 should include at least two of each of 1) journal papers, 2) conference papers, 3) trade-journal articles, 4) patents, and 5) companies and at least one 6) thesis. The total number of references in the database should be at least 30.]

Grading Scale

Your final grade will be assigned as a letter grade according to the following scale:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

Course Materials

Course Text

[None]

Additional Materials/Resources

[None]

Course Website and Other Classroom Management Tools

[Through the course website, the following course resources will be provided:

- EndNote Instructions/Tutorials
- Literature Instructions/Tutorials
- Theses Instructions/Tutorials
- Patent Instructions/Tutorials
- Company Instructions/Tutorials
- Example EndNote Library containing:
 - Example Journal Papers and Summaries
 - Example Conference Papers and Summaries
 - Example Trade-Journal Papers and Summaries
 - Example Theses and Summaries
 - Example Patents and Summaries
 - Example Companies and Summaries
- Electrical Engineering Journal Terms List File
- Company Output Style File
- IEEE Standard Form for References]

Course Expectations & Guidelines

[Below are the policies that should be included in all Georgia Tech syllabi. Three of them include text provided for you; the remaining five need to be written by you, according to your preferences for your

course. As you write this portion of your syllabus, use language that emphasizes your students' role in the process, and aim for a tone that communicates both authority and approachability. Each policy should make it clear what is and is not expected/permissible in this class, what the rationale or motivation behind the policy is, what students need to do in extenuating circumstances, and what the consequences will be if they fail to live up to the expectations laid out in the policy. Finally, your policy should represent something that you are comfortable implementing consistently, throughout the course.]

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or <http://www.catalog.gatech.edu/rules/18/>.

Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Accommodations for Individuals with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or <http://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Assignment Turn-In

[Databases and summaries are submitted by e-mail as compressed files. Homework assignments are submitted in paper format in class.]

Attendance and/or Participation

[Attendance is encouraged but not required except when student is scheduled to present.]

Collaboration & Group Work

[Students are encouraged to work together. However, each student must present their own unique database and white paper proposal.]

Extensions, Late Assignments, & Re-Scheduled/Missed Exams

[A flexible approach will be applied as needed.]

Student Use of Mobile Devices in the Classroom

[Students will be encouraged to use mobile devices in class for their Research Methods course work.]

Student-Faculty Expectations

At Georgia Tech we believe that it is important to continually strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. See <http://www.catalog.gatech.edu/rules/22/> for an articulation of some basic expectations - that you can have of me, and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech, while in this class.

Course Schedule

Date	Topic	Reading, Notes, due dates, and more
Week 1	Introduction, Topic Definition	
Week 2	EndNote Library Software	
Week 3	Display Fields, Output Styles, Groups	
Week 4	Writing Summaries, Library Resources	
Week 5	Compendex/Inspec/Cited Reference Searches	
Week 6	Journal Terms List, Company Output Style, Citation Alerts	
Week 7	Patents	
Week 8	USPTO, Google Patent Searches	
Week 9	Non-Database Material, Web Site Capture	
Week 10	Company Searches, Dun & Bradstreet, S & P Global NetAdvantage	
Week 11	Company Technology Assessment, Papers, Intellectual Property	
Week 12	Writing White Paper Proposals	
Week 13	Research Assessment, Citation Analysis, Citation Map	
Week 14	Making Oral Presentations	
Week 15	White Paper Proposal Discussion	

Alternative Format:

Date	Prepare before class	Topic during class	Homework	Assignments Due